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# COMPETITIVENESS OF BULGARIAN FARMS IN CONDITIONS OF EU CAP IMPLEMENTATION

Hrabrin Bachev<sup>1</sup>

## Abstract

This paper suggests a holistic framework for assessing farm competitiveness, and analyses competitiveness of different type of Bulgarian farms during EU CAP implementation. First, it presents a new approach for assessing farm competitiveness defining farm competitiveness and its three criteria (efficiency, adaptability and sustainability), and identifying indicators for assessing the individual aspects and the overall competitiveness of farms. Next, it analyzes evolution and efficiency of farming organizations during post-communist transition and EU integration in Bulgaria, and assesses levels and factors of farms competitiveness in the conditions of CAP implementation. Third, it assesses the impact of EU CAP on income, efficiency, sustainability, and competitiveness of Bulgarian farms.

**Key words:** efficiency, adaptability, sustainability, and competitiveness of farms, transitional agriculture, EU integration, impacts of EU CAP, Bulgaria

## 1. INTRODUCTION

The issue of farm competitiveness is among the most topical in academic, business and political respect. There have been numerous studies on competitiveness of different type and kind of farms in developed, transitional and developing countries [Benson; Delgado *et al.*; Farmer; Fertő and Hubbard; Mahmood; Popovic *et al.*; Pouliquen; Shoemaker *et al.*; Zawalinska]. Nevertheless, up to date, there is no widely accepted and comprehensive framework for assessing farm competitiveness in different market, economic, institutional and natural environment.

Usually farm competitiveness is not well defined and it is studied through traditional indicators of technical efficiency, productivity, profitability etc. At the same time, important aspects of farm competitiveness such as the governance efficiency, the potential and incentives for adaptation, and the sustainability are commonly ignored in the analyses. Furthermore, with very few exceptions [Bachev 2010b; Koteva and Bachev] there are no comprehensive studies on farm competitiveness in Bulgaria during EU integration and CAP implementation.

This paper suggests a holistic framework for assessing farm competitiveness, and analyses competitiveness of different type of Bulgarian farms during EU CAP implementation. First, it presents a new approach for assessing farm competitiveness defining farm competitiveness and its three criteria (efficiency, adaptability and sustainability), and identifying indicators for assessing the individual aspects and the overall competitiveness of farms. Next, it analyzes evolution and efficiency of farming organizations during post communist transition and EU integration in Bulgaria, and assesses levels and factors of competitiveness of different type of farms in the conditions of CAP implementation. Third, it assesses the impact of EU CAP on income, efficiency, sustainability, and competitiveness of Bulgarian farms.

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## 2. FRAMEWORK FOR ASSESSING FARM COMPETITIVENESS

### 2.1. Definition of farm competitiveness

Farm competitiveness characterizes the *ability (internal potential, incentives) of a farm to compete on (a) market successfully* [Bachev 2010b]. It is a feature only of the “market farms” whatever their specific type is – semi-subsistence (semi-market) holdings, family farms, cooperatives, business enterprises etc. If a farm is non-market (e.g. subsistence holding, member oriented cooperative), or it is quasi or entirely integrated in a larger venture (e.g. processing enterprise, food chain, restaurant, eco-tourism etc.) it has no such attribute.

A good competitiveness means that a farm can produce *and* sell out its products and services *effectively*. The later could be a result of the competitive *prices, variety, quality, time of delivery, location* or other *specificity* (such as newest, uniqueness, organic character, origin etc.) of farm and/or its products. Contrary, the insufficient competitiveness indicates that a farm is experiencing serious problems in producing and marketing its output effectively (or at all) because of the high production *and/or* transaction costs. The farm competitiveness usually refers to farm’s ability to compete on a *certain market(s)* – retail, wholesale, local, regional, international, niche, for commodities for direct consumption or processing, mass or specific products, services, etc.

In some cases, a *segment* of farm’s activity could be competitive while other(s) not. For instance, in many mix Bulgarian farms the crop production is usually highly competitive while livestock operations are not. Besides, there are various reasons for keeping “profitable” *and* “unprofitable” activities within a farm – e.g. preferences, internal use of “free” resources, technological and transaction costs economies of scale and scope, interdependency of assets or activities, risk management etc. [Bachev 2004, Bachev 2012b]. Therefore, farm efficiency and competitiveness characterize the overall rather than the partial performance of a farm.

The *level* of competitiveness of a particular farm depends on two groups of *factors*:

- *internal factors* - managerial capital, owned resources, potential for innovation and adaptation, productivity, relative power, location, relation specific capital, reputation etc. and
- *external factors* - evolution and maturity of agrarian markets, number and power of competitors, development of downstream and upstream industries, level of public support to agriculture, institutional restrictions, border control measures, liberalization of local markets and international trade etc.

The specific level of competitiveness of a particular farms, or farms in individual sub-sectors, regions and countries depends on internal and outside factors. However, the farm competitiveness is always a *characteristic of the farm* and expresses its *internal potential* (ability) to compete successfully in the *specific* economic, institutional etc. environment.

Farm competitiveness is usually assessed in a *relative* term (comparing to other similar farms) or *absolute* term (comparing to other competitors on a market). A particular farm could have a higher, average or lower performance than the other similar farms, and be competitive or uncompetitive on a particular market. Namely, because of the insufficient competitiveness of most (or some of) domestic farms some countries apply a public protection mode – subsidies, state purchase, price guarantee schemes, border restrictions etc.

### 2.2. Criteria for farm competitiveness

A farm will be competitive if it is *efficient*, and *adaptive*, and *sustainable* [Bachev 2010b]. Thus, there are three *criteria* for assessing the competitiveness of a farm (Figure 1).

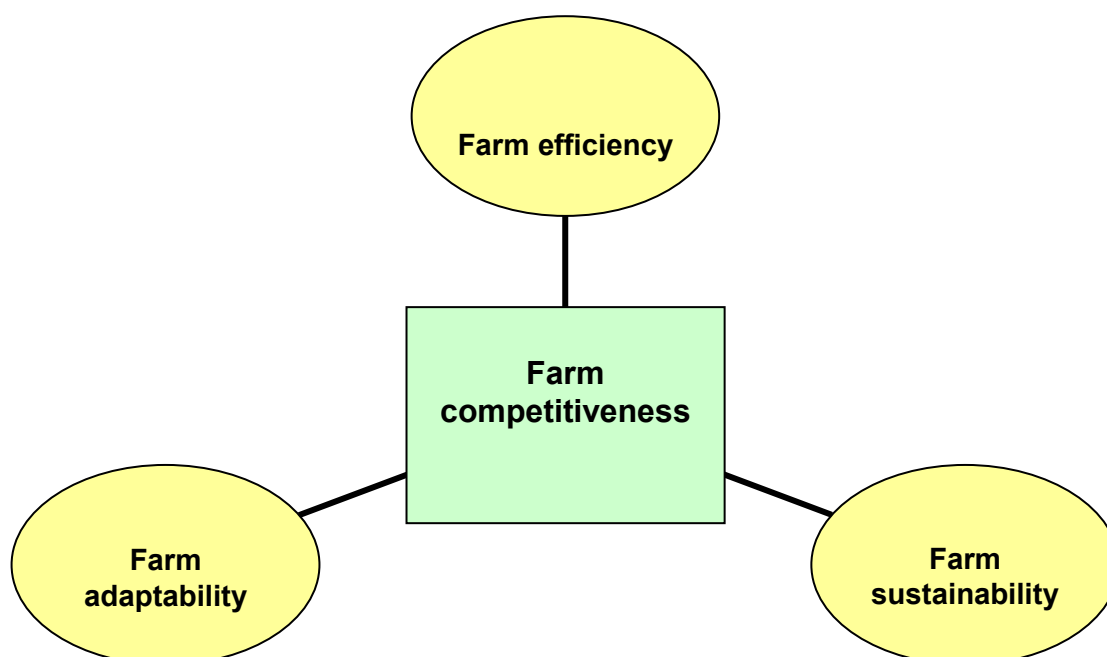


Figure 1. Criteria for assessing competitiveness of farm

**First, farm efficiency** – that is the potential of a farm to organize effectively the production and transaction activity (of farmer, coalition of members), and minimize the overall production and transaction costs.

Broadly applied traditional approach cannot assess adequately the efficiency of farms since it restricts analysis to the *technical* efficiency (productivity) and/or *financial* efficiency (profitability). At the same time, significant *transaction costs* associated with the farming organization and farm's potential to economize on governance costs are completely ignored.

Farm is not only a production but a *governance* structure as well [Bachev 1996, 2004]. Besides production costs farming activity is usually associated with significant *transaction costs*<sup>2</sup>. For instance, there are costs for studying and complying with various institutional requirements (laws, standards, informal norms); for finding best prices and partners; for identification and protection of diverse property rights; for negotiating conditions of exchange; for contract writing and registration; for setting up and maintaining of a coalition; for enforcing negotiated terms through monitoring, controlling, measuring and safeguarding; for directing and monitoring hired labor; for collective decision making and controlling members of the coalition; for disputing, including through a third party (court system, arbitration or another way); for adjusting or termination along with the evolving conditions of exchange etc.

In addition, the choice of type of farming organization is often determined by the *personal characteristics of individual agents* – preferences, ideology, knowledge, capability, training, managerial experience, risk-aversion, reputation, trust, power etc. For instance, if farmer is a good manager he will be able to design and control a bigger organization managing effectively more internal (labor) and outside (market and contract) transactions. A risk-taking farmer will prefer more risky but productive forms - e.g. bank credit for a new profitable venture). When counterparts are family members or close friends there is no need for complex organization since relations are

<sup>2</sup> *Production costs* are the cost associated with proper technology (“combination of production factors”) of certain farming, servicing, environmental, community development etc. activity. The *transaction costs* are the costs for governing the economic and other relations between individuals.

easily “governed” by the good will and mutual interests of parties. Furthermore, *benefits* for farmers could range from monetary or non-monetary income; profit; indirect revenue; pleasure of self-employment or family enterprise; enjoyment in agricultural activities; desire for involvement in environment, biodiversity, or cultural heritage preservation; increased leisure and free time; to other non-economic benefits.

Therefore, the *overall* production *and* transaction costs *and* benefits of a farm are to be taken into account in the assessments of farm efficiency. Different *types* of farms (subsistent, semi-market, part-time, family, group, cooperative, firm, corporative etc.) have *unlike missions, goals, costs and benefits* for owners, *modes of enhancement of efficiency* etc. [Bachev 2004]. Therefore, they apply quite different *strategies for development* – e.g. preservation or expansion of a family farm, income support, group farming, servicing members, innovation, commercialization, market domination, specialization, diversification, cooperation with competitors, environmental conservation, integration into processing and food chain, direct (on farm) marketing, international trade etc.

Consequently, diverse farms would have quite *different ways* for expression of their proper efficiency. Thus, it is to be expected a significant variation in the rate of profitability on investments in an agro-firm (a profit-making organization) from the “pay-back” of expenditures or resources in a family farm (a major or supplementary income generation form), in a cooperative (a member oriented organization), in a public farm (a non-for profit organization) or in a semi-market farm (giving opportunity for productive use of otherwise “non-tradable” resources such as family labor, land etc.)<sup>3</sup>.

Furthermore, there are many highly effective (non-market, cooperative etc.) farms which are not competitive since they do not compete on market at all. In order to be competitive a farm must be effective *and* be able to govern effectively its *marketing* transactions. Therefore, the system of assessment of farm competitiveness is to take into account the farm’s specific *and* market efficiency.

**Second, farm adaptability** – that is farm’s potential (ability, incentives) to adapt to constantly changing market, economic, institutional, and natural environment.

A market farm could be very effective (in optimization of current production and transaction costs) but unless it posses a good adaptation potential it will not be competitive. A market farm must have not only high *historical* or *current* efficiency but a *long-term* ability to perform effectively. The later implies existence of a good potential for farm adaptation to: liberalization of markets, globalization and augmentation of competition; dynamics of demand and prices of farm products; evolution of supply and prices of agrarian inputs, labor, services, finance etc.; progression of public support to farms; development of market and institutional norms, standards and regulations; changes in natural environment (e.g. global warming, extreme weather, water shortages etc.).

For instance, in Bulgaria there are many highly productive (small scale, livestock etc.) farms which are *not able* adapt (lack of managerial ability and/or needed resources) to increasing competitive pressure, and new EU quality, safety, environmental preservation, animal welfare etc. standards, and/or challenges associated with the global climate change [Bachev and Nanseki; Bachev 2010].

There are also marketing farms which have *no incentives* to adapt to new environment. For instance, if a farm/firm is in the end of its life cycle (an old age farmer with no successors) it does not have stimulus for a long-term investment for enhancement of adaptability and competitiveness. Similarly, despite the huge public support for restructuring of so called “semi-market farms” in Bulgaria, the progress in implementation of this measure has been very slow and far behind the targets)because of the lack of interests in beneficiaries.

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<sup>3</sup> Indeed, a significant variation in productivity and profitability has been found in all estimates on “efficiency” of different farms during transition now in countries from Central and East Europe [Bachev, 2004; Csáki and Lerman; Gortona and Davidova; Mathijs and Swinnen; Zawalinska].

The farm adaptation is achieved through progressive improvement of the *factors of production* (resources, technologies, varieties of plants and livestock), *production structure* and/or *organization of the farm* (labor organization, internal management structure, management of contractual relations, modernization of organizational form etc.). Thus the system of assessment of farm competitiveness is to take into account the farm's potential for adaptation to specific market, institutional and natural environment.

**Third, farm sustainability** – that is farm's ability to maintain (continue) over time [Bachev 2005; Bachev and Peeters; Bachev 2012a].

A farm could be efficient and adaptive but unsustainable in a medium or long-term. Therefore, such farm is not going to be competitive. For instance, around the world there are many part-time farms which “sustain” during the economic crisis (high unemployment, low income) and “suddenly” disappear once the economic situation improves. Likewise, in western countries there are many unsustainable family farms which managers are in retirement age but there is no successor willing to undertake the enterprise.

Similarly, in Bulgaria there are a great number of otherwise efficient but highly unsustainable in a short to medium-term farms [Bachev 2006, 2010]. Most of these farms are individual or family holding operated by old managers<sup>4</sup>, or they are located in mountainous regions and specialized in tobacco production (declining markets, limited alternative employment opportunities), or they are old style production cooperatives (crisis in management, reduction in membership).

Furthermore, a market farm could be inefficient and inadaptably but highly “sustainable” – e.g. during transition there were many such farming organizations in Bulgaria (various public farms and firms in the *process* of privatization, reorganization or liquidation). Thus the system of assessment of farm competitiveness is to take into account the farms sustainability in shorter and medium terms along with its efficiency and adaptability.

### 2.3. Assessment of farm competitiveness

The evaluation of the overall competitiveness of an individual farm, or farms of different types, specialization or regions, requires a complex *qualitative* analysis. This assessment is to determine the factors and levels of farm efficiency, adaptability and sustainability in the specific market, economic, institutional and natural environment.

Furthermore, for each criteria one or more *indicators* is to be selected giving idea about (measuring) the level of farm efficiency, adaptability and sustainability.

There are a *great variety* of indicators for evaluating farm's *technical and financial efficiency* suggested in textbooks (manuals) and/or practically used by various types of farms in diverse sub-sectors of agriculture and different countries. For assessing farm competitiveness, there is to be selected *few* (key) indicators which best characterize the technical and financial efficiency of the specific type of farm in the conditions of a particular sub-sector, region and country. For instance, for the conditions of Bulgarian market farms the *quantitative* indicators for the levels of labor productivity, land and livestock productivity, profitability of farm, profitability of own capital, liquidity, and financial autonomy, are the most appropriate for evaluation of farm's technical and financial efficiency [Koteva and Bachev] (Table 1).

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<sup>4</sup> 40% of the farm managers in the country are older than 65 [MAF].

**Table 1. Indicators for assessing farm competitiveness**

| Criteria            | Indicators  |
|---------------------|---|
| Farm efficiency     | Level of labor productivity<br>Level of land and livestock productivity<br>Level of profitability of farm<br>Level of profitability of own capital<br>Level of liquidity<br>Level of financial autonomy<br>Level of governance efficiency |
| Farm adaptability   | Level of adaptability to market environment<br>Level of adaptability to institutional environment<br>Level of adaptability to natural environment   |
| Farm sustainability | Level of sustainability   |

For assessing farm's *governance efficiency* a *qualitative* analysis is needed embracing farm's goals, ownership structure, personal characteristics of the farmer and labor, critical dimensions of different farm transactions, level of internal and outside transaction costs, available governance alternatives; competition, cooperation, integration and/or complementarily with other organizations etc.

Furthermore, according to the farmer's personal preferences, and farm's transacting costs and benefits, it could be found that a particular farm would be highly efficient (or inefficient) with various levels of (combination of the) productivity, profitability, financial security, and financial dependency. For instance, despite the low productivity, profitability and financial independence of many Bulgaria cooperatives, their efficiency for members has been high - non-for profit organization of highly specific for members assets and services with minimum production and/or transaction costs [Bachev 2006].

For assessing *farm's adaptability* three *qualitative* indicators could be used – the level of adaptability to market environment, the level of adaptability to institutional environment, and the level of adaptability to natural environment (Figure 2). Moreover, the level of the *overall adaptability of the farm* will be determined by the indicator with *the lowest* value. For instance, in spite of the high adaptability to market and natural environment of many Bulgarian farms, their overall adaptability has been low since the level of adaptability to the new institutional requirements and restrictions is low [Bachev 2005; Bachev 2010].

For assessing *farm's sustainability* a *qualitative* analysis of the farm and its environment is needed. Some of the factors reducing farm sustainability are *internal* for the farm (e.g. natural "life cycle" of the farm, low efficiency, insufficient adaptability) while others are *external* and associated with the evolution of market, economic, institutional and natural environment.

In order to assess the overall sustainability of a farm a *quantitative* indicator "level of sustainability" could be calculated.

*First*, the *managerial problems* associated with the effective supply of needed factors of production and the marketing of output are to be identified, and their *severity* ranged (Table 2). *Persistence* of serious *unsolvable* problems in any of the functional areas of the farm management would indicate a *low governance efficiency* and *sustainability*.

**Table 2. Identification of type of farm's problems in supply of factors of production and marketing of output**

| Serious problems in:   | Character of management problems |               |        |     |            |
|--|----------------------------------|---------------|--------|-----|------------|
|  | None                             | Insignificant | Normal | Big | Unsolvable |
| Effective supply of needed land and natural resources        |                                  | 😊             |        |     |            |
| Effective supply of needed labor                             | 😊                                |               |        |     |            |
| Effective supply of needed material and biological inputs    |                                  | 😊             |        |     |            |
| Effective supply of needed innovation and know-how           |                                  |               | 😊      |     |            |
| Effective supply of needed services                          |                                  |               | 😊      |     |            |
| Effective supply of needed funding                           |                                  |               |        |     | 🚚          |
| Effective utilization and marketing of produces and services |                                  |               |        |     |            |

Next, the level of sustainability in supply of each of the factors of production and in the marketing of output is to be determined through *transformation* of the “level of problems in management” into the “levels of sustainability” (Table 3).

**Table 3. Scale for conversion of levels of management problems in levels of sustainability**

| Seriousness of problems | Level of sustainability |
|-------------------------|-------------------------|
| None                    | Very high               |
| Insignificant           | High                    |
| Normal                  | Good                    |
| Big                     | Low                     |
| Unsolvable              | Unsustainable           |

The level of the *overall* sustainability of a farm will coincide with *the lowest* level of sustainability of supply of any of the factors of production or the marketing of products. For instance, despite the high sustainability of supply of natural, human and material factors of production, the overall level of sustainability of most Bulgarian farms is low because of the low sustainability of the management of finance supply and/or marketing of output [Bachev 2005].

In addition to traditional statistical, farming system, and accountancy data, a new type of *micro-economic data* for farm's specific characteristics, activity and governance as well as *data for farm's market, institutional and natural environment* are needed to access the level of competitiveness through various indicators. These *new* data are to be collected through interviews with farm managers and/or experts in the area.

The analysis of various aspects of farm competitiveness let not only to determine its level but also to identify the critical factors impeding its improvement, and assist farm management and public policies modernization.

Often, the values of different indicators for individual criteria are with *different directions*. For instance, the efficiency and sustainability of a farm(s) could be high while adaptability low and vice versa. In order to get idea about the *overall* competitiveness of a farm and to be able to make *comparison* of competitiveness of different farms it is necessary to calculate an *Index of Farm Competitiveness*.

*Initially*, we have to convert the specific value of indicators for efficiency, adaptability and sustainability into universal *unitless* values. An exemplary scale for conversion of the qualitative indicators for overall efficiency, adaptability and sustainability into universal (unitless) indicators is presented in Table 4.



**Table 4. Scale for conversion of qualitative indicators for overall efficiency, adaptability and sustainability into universal indicators**

| Level of efficiency | Qualitative value of indicators |                         | Quantitative value |
|---------------------|---------------------------------|-------------------------|--------------------|
|                     | Level of adaptability           | Level of sustainability |                    |
| Very high           | Very high                       | Very high               | 1                  |
| High                | High                            | High                    | 0,75               |
| Good                | Good                            | Good                    | 0,5                |
| Low                 | Low                             | Low                     | 0,25               |
| Insufficient        | Insufficient                    | Insufficient            | 0                  |

After that, we could calculate an integral Index of Farm Competitiveness ( $I_c$ ) by multiplying the Index of Farm Efficiency ( $I_e$ ), Index of farm adaptability ( $I_a$ ) and Index of Farm Sustainability ( $I_s$ ) using formula:  $I_c = I_e \times I_a \times I_s$ .

The value of  $I_c$  would vary between 0 and 1, as a farm would be *highly competitive* when  $I_c$  is 1, *uncompetitive* when  $I_c$  is 0, and with a range of different (low, good etc.) levels of competitiveness when  $I_c$  is between 0 and 1. The specific ranges and weights of indicators for assessing farm efficiency and integral competitiveness as high, good, low and insufficient is to be determined by *experts* according to the specific conditions in each country, subsector of agriculture or type of farming organization.

Depending on identified ranges and weights for assessment, a particular farm would have quite unlike level of the overall competitiveness. For instance, if there is no competition with imported products in a local market, a farm with relatively low productivity will be competitive. On the other hand, the same farm would be uncompetitive in an opened and matured market with a strong internal and international competition.

## 2.4. Framework for assessing impacts of EU CAP on farms

Introduction of European Union Common Agricultural Policy (EU CAP) in the new member states has profound impact(s) on the competitiveness of farms of different type. Assessment is to be made on the effects on agricultural farms from the implementation of various instruments of EU CAP including (Figure 2):

- common market of agrarian and food products – access to enormous European market, trade liberalization, intensification of competition, common policies toward third countries;
- System of new standards (for quality, hygiene, safety, environmental protection, animal welfare etc.) and restrictions (milk quotas, limits for vineyards extension, reduced use of natural resources etc.);
- Direct payments from EU and national top-ups;
- Support measures of the National Strategic Plan for Agrarian and Rural Development (NPARD);
- Mechanisms of market support of different sub-sectors and exports etc.

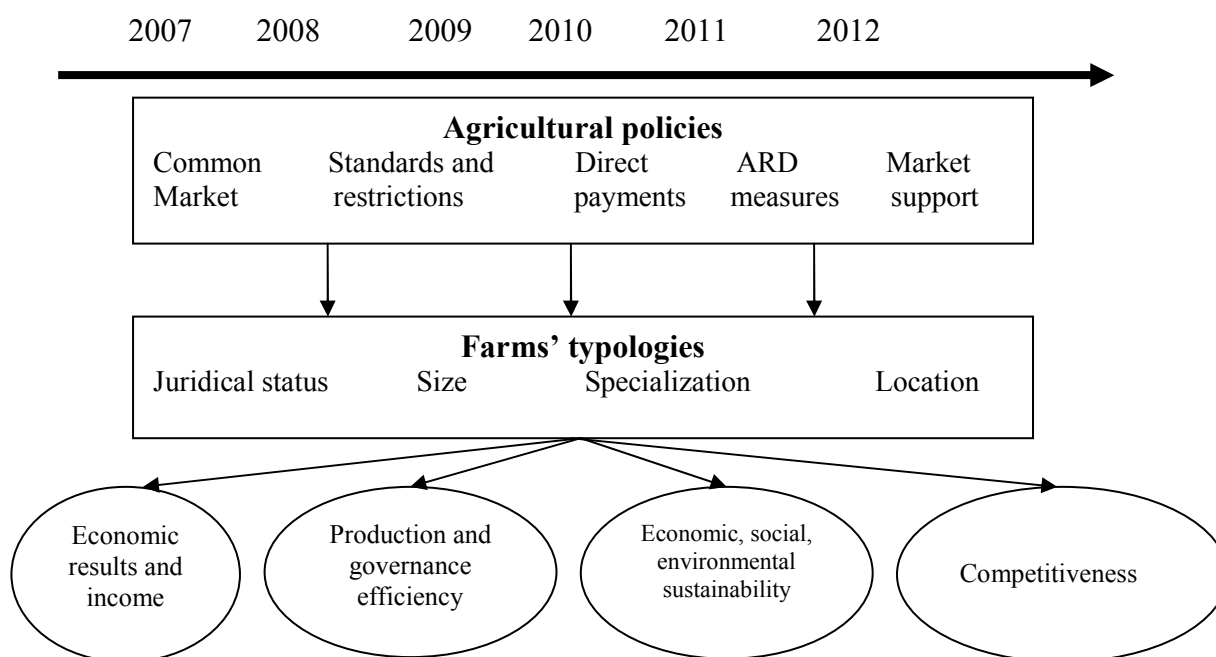


Figure 2. Scope of assessment of CAP impacts on Bulgarian farms

The analysis is to embrace effects of CAP implementation on farms as a whole and of different type consisting of:

- farms with different juridical status – physical persons, cooperatives, firms of different type (Sole traders, Limited Liability Companies, Joint Stock Companies, Corporations, Associations etc.);
- farms with different size – rather small, middle size, and rather big for the (sub)sector;
- farms with different specialization–field crops, vegetables, permanent crops, grazing livestock, pigs, poultry and rabbits, mix crops, mix livestock, and mix crop-livestock;
- farms with different geographical locations – predominately plain, predominately mountainous, plain-mountainous, areas with natural handicaps, protected zones and territories.

An assessment is to be made on real rather than “projected or plan” effects of CAP implementation on:

- economics results and income from farms activity;
- change in production and governance efficiency of farms;
- economic, social, and environmental sustainability of farms;
- level of competitiveness of farms.

Assessment is to be based on available official information (public agencies and professional organizations) further resized with original farms survey data and experts evaluations.

### 3. LEVEL OF COMPETITIVENESS OF BULGARIAN FARMS

#### 3. 1. Evolution, efficiency and sustainability of farms

Post-communist privatization of farmland and other agrarian resources has contributed to a rapid development of private farming in the country<sup>5</sup>. There emerged more than 1,7 million private farms of different type after 1990 (Table 5).

**Table 5. Evolution and importance of different type farms in Bulgaria**

|                       | Public farms | Unregistered | Cooperatives | Agro-firms | Total   |
|-----------------------|--------------|--------------|--------------|------------|---------|
| Number of farms       |              |              |              |            |         |
| 1995                  | 1002         | 1772000      | 2623         | 2200       | 1777000 |
| 2000                  | 232          | 755300       | 3125         | 2275       | 760700  |
| 2005                  |              | 515300       | 1525         | 3704       | 520529  |
| 2010                  |              | 350900       | 900          | 6100       | 357900  |
| Share in number (%)   |              |              |              |            |         |
| 1995                  |              | 99.7         | 0.1          | 0.1        | 100     |
| 2000                  |              | 99.3         | 0.4          | 0.3        | 100     |
| 2005                  |              | 99.0         | 0.3          | 0.7        | 100     |
| 2010                  |              | 98,0         | 0,25         | 1,7        | 100     |
| Share in farmland (%) |              |              |              |            |         |
| 1995                  | 7.2          | 43.1         | 37.8         | 11.9       | 100     |
| 2000                  | 1.7          | 19.4         | 60.6         | 18.4       | 100     |
| 2005                  |              | 33.5         | 32.6         | 33.8       | 100     |
| 2010                  |              | 33,5         | 23,9         | 42,5       | 100     |
| Average size (ha)     |              |              |              |            |         |
| 1995                  | 338.3        | 1.3          | 800          | 300        | 2.8     |
| 2000                  | 357.7        | 0.9          | 709.9        | 296.7      | 4.7     |
| 2005                  |              | 1.8          | 584.1        | 249.4      | 5.2     |
| 2010                  |              | 2,9          | 807          | 211,6      | 8,5     |

Source: National Statistical Institute and Ministry of Agriculture and Food

Majority of newly evolved farms are **unregistered farms** (Physical persons). They concentrate the main portion of agricultural employment and key productions like livestock, vegetables, fruits, grape etc. (Table 6). Unregistered farms are predominately *subsistence*, *semi-market* and *small-scale commercial* holdings. According to the official data the farms smaller than 2 European Size Unit (ESU)<sup>6</sup> comprise the major share of all farms in main agricultural subsectors (Figure 3). What is more, in livestock activities they account for the bulk of the Standard Gross Margin (SGM) in related subsectors.

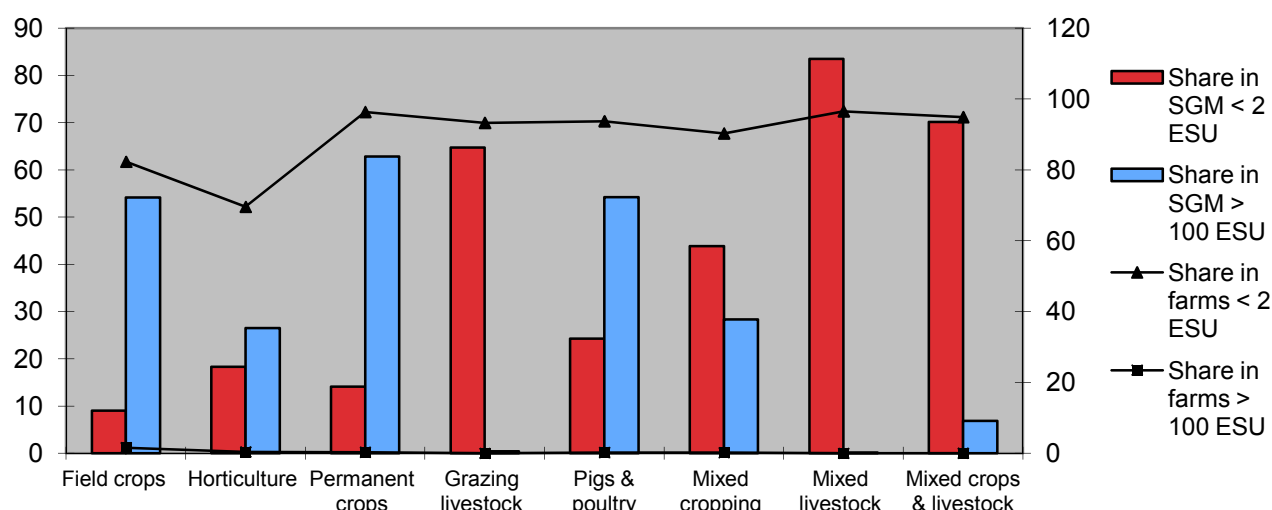
<sup>5</sup> Agrarian transition was basically completed by 2000. Bulgaria joined the EU on January 1, 2007.

<sup>6</sup> 1 ECU=1200 Euro. According to the EU classification farms with a size of 2-4 ESU are considered as “semi-market farms”. The actual number of subsistence and semi-subsistence farms is unknown since many of them are not covered by the Agricultural Census.

**Table 6. Share of different type farms in all holdings, agrarian resources and productions in Bulgaria**

| Indicators   | Physical persons | Cooperatives | Sole traders | Companies | Associations |
|--|------------------|--------------|--------------|-----------|--------------|
| Number of holdings with Utilized Agricultural Area (UAA) (%) | 99.0             | 0.3          | 0.4          | 0.2       | 0.05         |
| Utilized agricultural area (%)                               | 30.3             | 40.3         | 11.7         | 16.1      | 1.6          |
| Average size (ha)  | 1.4              | 592.6        | 118.8        | 352.5     | 126.2        |
| Number of breeders without UAA (%)                           | 96.1             | 0.2          | 1.9          | 1.7       | 0.1          |
| Workforce (%)  | 95.5             | 1.2          | 0.8          | 1.4       | 0.3          |
| Labor input (%)  | 91.1             | 4.1          | 1.4          | 2.8       | 0.6          |
| Cereals (%)  | 26.6             | 41.8         | 13.0         | 17.3      | 1.3          |
| Industrial crops (%)   | 20.5             | 45.1         | 14.2         | 18.6      | 1.6          |
| Fresh vegetables (%)   | 86.4             | 4.4          | 4.2          | 4.6       | 0.4          |
| Orchards and vineyards (%)                                   | 52.3             | 29.5         | 2.9          | 10.7      | 4.6          |
| Cattle (%)   | 90.2             | 5.1          | 1.5          | 2.5       | 0.7          |
| Sheep (%)  | 96.0             | 1.4          | 0.8          | 1.0       | 0.8          |
| Pigs (%)   | 60.3             | 1.4          | 7.0          | 30.5      | 0.8          |
| Poultry (%)  | 56.5             | 0.2          | 13.3         | 29.3      | 0.7          |

Source: MAF, Agricultural Holdings Census in Bulgaria'2003



Source: Ministry of Agriculture and Food

**Figure 3. Share of farms with SGM smaller than 2 ESU and bigger than 100 ESU in total SGM and farms with different specialization (percent)**

Agrarian reform has turned most households into owners of farmland, livestock, equipment etc. An *internal organization* of available household resources in an own farm has been an effective way to overcome a great institutional and economic uncertainty, protect private rights and benefit from owed resources, and minimize costs of transacting [Bachev 2000]. During transition, market or contract trade of much of household capital (land, labor, money) was either impossible or very expensive due to: unspecified or completely privatized rights, “over-supply” of resources (farmland, unemployed labor), “missing” markets, high uncertainty and risk, asymmetry of information, enormous opportunism in time of hardship, little job opportunities and security etc. Running up an own farm has been the most effective (or only feasible) mode for productive use of available resources (free labor, land, technological know-how), providing full and part-time employment or favorable occupation for family members, and securing income and effective (cheap, safe,

sustainable) food supply for individual households. Specialization or diversification into small-scale farming has taken place [Bachev 2008], and even now the agriculture is an “additional source of income” for one out of 7 Bulgarians [MAF].

Management of the small-scale farms is not associated with significant costs (Table 7). They are mainly *individual* or *family holdings*, and farm size is exclusively determined by household resources – family labor, own farmland and finance. Internal governing costs are non-existent (one-person farm) or insignificant because the coalition is between family members (common goals, high confidence, and no cheating behavior dominate). Farmers have strong incentives to increase efficiency adapting to internal or market demand, intensifying work, investing in human capital etc. since they own the whole residuals (income).

**Table 7. Time and efforts for governing of farm transactions in Bulgaria (% of farms)**

| Efforts and time for:                                     | Level    | Type of farms |             |       |       |        |       |       |
|---|----------|---------------|-------------|-------|-------|--------|-------|-------|
|   |          | Unregistered  | Cooperative | Firms | Small | Middle | Large | Total |
| Finding new workers                                       | big      | 18,91         | 14,28       | 12,5  | 18,91 | 18,18  | 0     | 15,46 |
|   | moderate | 8,10          | 42,85       | 37,5  | 5,40  | 45,45  | 31,25 | 27,83 |
| Finding partners selling or leasing-out farmland          | big      | 18,91         | 35,71       | 12,5  | 13,51 | 31,81  | 12,5  | 21,64 |
|   | moderate | 29,72         | 14,28       | 62,5  | 18,91 | 40,90  | 62,5  | 36,08 |
| Finding suppliers for needed materials, equipment etc.    | big      | 24,32         | 21,42       | 50    | 21,62 | 34,09  | 50    | 31,95 |
|   | moderate | 29,72         | 67,85       | 25    | 35,13 | 45,45  | 31,25 | 39,17 |
| Finding markets for outputs                               | big      | 37,83         | 42,85       | 56,25 | 27,02 | 56,81  | 56,25 | 45,36 |
|   | moderate | 13,51         | 35,71       | 28,12 | 27,02 | 20,45  | 31,25 | 24,74 |
| Finding the rest of needed information                    | big      | 45,94         | 17,85       | 15,62 | 40,54 | 18,18  | 25    | 27,83 |
|   | moderate | 10,81         | 21,42       | 40,62 | 8,10  | 31,81  | 37,5  | 23,71 |
| Negotiating and preparing contracts                       | big      | 18,91         | 35,71       | 40,62 | 16,21 | 40,90  | 37,5  | 30,92 |
|   | moderate | 27,02         | 21,42       | 37,5  | 21,62 | 27,27  | 50    | 28,86 |
| Controlling implementation of contractual terms           | big      | 48,64         | 42,85       | 37,5  | 45,94 | 36,36  | 56,25 | 43,29 |
|   | moderate | 5,40          | 14,28       | 31,25 | 5,40  | 22,72  | 25    | 16,49 |
| Resolving conflicts associated with quality and contracts | big      | 29,72         | 14,28       | 59,37 | 29,72 | 31,81  | 56,25 | 35,05 |
|   | moderate | 5,40          | 50          | 21,87 | 16,21 | 31,81  | 18,75 | 23,71 |
| Relations with banks and preparing projects for crediting | big      | 35,13         | 42,85       | 59,37 | 32,43 | 47,72  | 68,75 | 45,36 |
|   | moderate | 8,10          | 42,85       | 37,5  | 5,40  | 45,45  | 31,25 | 16,49 |
| Associating with registration regimes                     | big      | 18,91         | 17,85       | 15,62 | 18,91 | 18,18  | 12,5  | 17,52 |
|   | moderate | 2,70          | 21,42       | 9,37  | 10,81 | 13,63  | 0     | 10,30 |
| Relations with administration                             | big      | 24,32         | 10,71       | 18,75 | 21,62 | 15,90  | 18,75 | 18,55 |
|   | moderate | 21,62         | 42,85       | 40,62 | 32,43 | 38,63  | 25    | 34,02 |
| Relations with membership organizations                   | big      | 18,91         | 21,42       | 6,25  | 16,21 | 20,45  | 0     | 15,46 |
|   | moderate | 5,40          | 25          | 43,75 | 2,70  | 40,90  | 25    | 23,71 |
| Others  | big      | 5,40          | 14,28       | 0     | 0     | 13,63  | 0     | 6,18  |
|   | moderate | 0             | 0           | 0     | 0     | 0      | 0     | 0     |

Source: interviews with farm managers<sup>7</sup>

Nevertheless, there has been a constant decrease in the number of unregistered farms as a result of labor exodus (competition with other farms or industries, retirement, emigration), organizational modernization (change in type of enterprises), increasing market competition

<sup>7</sup> This survey covers 2,8 % of the cooperatives, 1,2 % of the agro-firms, and 0,3% of the unregistered farms in the country as all holdings were selected as representative for the nation's main regions.

(massive failures and take-overs), and impossibility to adapt to new institutional requirements (standards) for safety, quality, environmental preservation, animal welfare etc.

More than 3000 new *production cooperatives* emerged during and after liquidation of ancient “cooperative” structures in 1990s (Table 4). They have been the biggest farms in terms of land management concentrating a major part of cereals, oil and forage crops, and key services to members and rural population (Table 5).

The cooperative has been the *single* effective form for farming organization in the absence of settled rights on main agrarian resources and/or inherited high interdependence of available assets (restituted farmland, acquired individual shares in the actives of old cooperatives, narrow specialization of labor) [Bachev 2000]. After 1990 more than 2 millions Bulgarians have got individual stakes in the assets of liquidated ancient public farms. In addition to their small size, a great part of these shares have been in indivisible assets (large machinery, buildings, processing and irrigation facilities). Therefore, new owners have had no alternative but liquidate (through sales, consumption, distortion) or keep these assets as a joint (cooperative) ownership. In many cases, the ownership rights on farmland were restituted with adjoined fruit trees and vineyards, and much of the activities (e.g. mechanization, plant protection, irrigation) could be practically executed solely in cooperation.

Most “new” landowners happened to live away from rural areas, have other business, be old of age, or possess no skills or capital to start own farms. In the absence of a big demand for farmlands and/or confidence in emerging private farming during first years of transition, more than 40% of the new owners pulled their land and assets in the new production cooperatives.

Moreover, most cooperatives have developed along with the new small-scale and subsistent farming. Namely, “non-for-profit” character and strong member (rather than market) orientation have attracted the membership of many households. In transitional conditions of undeveloped markets, high inflation, and big unemployment, the production cooperative has been perceived as an effective (cheap, stable) form for supply of highly specific to individual farms inputs and services (e.g. production of feed for animals; mechanization of major operations; storage, processing, and marketing of farm output) and/or food for households consumption.

The cooperative rather than other formal collective (e.g. firm) form has been mostly preferred. Cooperatives have been initiated by older generation entrepreneurs and a long-term “cooperative” tradition from the communist period has a role to play. Besides, this mode allows individuals an easy and low costs entree and exit from the coalition, and preservation of full control on a major resource (such as farmland), and “democratic” participation in and control on management (“one member-one vote” principle).

In addition, the cooperative form gives some important tax advantages such as tax exemption on sale transactions with individual members and on received rent in kind. Also for coops there are legal possibilities for organization of transactions not legitimate for other modes such as credit supply, marketing, and lobbying at a nation-wide scale<sup>8</sup>.

Relatively bigger operational size gives cooperatives a great opportunity for efficient use of labor (teamwork, internal division and specialization of work), farmland (cultivation in big consolidated plots, effective crop rotation, environment protection), and material assets (exploration of economies of scale and scope on large machinery etc.).

In addition, cooperatives have a superior potential to minimize market uncertainty (dependency) and increase marketing efficiency (“risk pooling”, advertisement, storing, integration into processing and direct marketing); and organize some critical transactions (better access to commercial credit and public programs; stronger negotiating positions in input supply and marketing deals; facilitate land consolidation through simultaneous lease-in and lease-out contracts; introduce technological innovations; effective environmental management); and invest in intangible capital (good reputation, own labels, brand names) etc.

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<sup>8</sup> Forbidden for business firms by the Double-taxation and Antimonopoly Laws.

In a situation of “missing markets” in rural areas, the cooperative mode is also the single form for organization of certain important activity such as bakery, processing, retail trade, recreation etc.

The cooperative activity is not difficult to manage since internal (members) demand for output and services is known and “marketing” secured (“commissioned”) beforehand (Table 6). In addition, cooperatives concentrate on few highly standardized (mass) products (such as wheat, sunflower etc.) with a stable market and high profitability.

Furthermore, the cooperative applies low costs long-term lease for the effective land supply from members. Output-based payment of labor is common which restrict opportunism and minimize internal transaction costs. Besides, cooperatives provide employment for members who otherwise would have no other job opportunities - housewives, pre- and retired persons. Moreover, they are preferable employer since they offer a higher job security, social and pension payments, paid day-offs and annual holidays, opportunity for professional (including career) development. Giving the considerable transacting benefits most cooperative members accept a lower (than market) return on their resources - lower wages, inferior or no rent for land and dividends for shares.

There have been some adjustments in cooperatives size, memberships, and production structure. A small number of coops have moved toward a “business like” (popularly known as “new generation cooperative”) governance applying market orientation, profit-making goals, close and small-membership policy, complex joint-ventures with other organizations etc. That has been a result of overtaking the cooperatives management by younger entrepreneurs, improving the governance, taking advantage from new market opportunities and public support programs, and establishing of some of coops as key regional players.

Besides, some cooperatives have benefited significantly from the available new public support (product or area based subsidies), and the comparative advantages to initiate, coordinate and carry out certain (environmental, rural development etc.) projects requiring large collective actions.

At the same time, many cooperatives have shown certain *disadvantages* as a form for farm organization. A big membership of the coalition (averaging 240 members per coop) makes individual and collective control on the coop’s management very difficult and costly. That gives a great possibility for mismanagement and/or let using cooperatives in the best interests of managers or groups around them (on-job consumption, unprofitable for members’ deals, transfer of profit and property, corruption)<sup>9</sup>.

What is more, majority of the new cooperatives did not overcome the incentive problems associated with the collective team working in the old public farms - over employment, equalized remuneration, authoritarian management, adverse feeling towards private farming, system of personal plots etc. [Bachev 2006].

Furthermore, there are differences in the investment preferences of diverse members (old-younger; working-non-working; large-small shareholders) due to non-tradable character of cooperative shares (so called “horizon problem”). While working and younger members are interested in long-term investments and growth of salaries, income in kind, other on-job benefits, the older and not working members favor higher current gains (income, land rent, dividend). Given the fact that most cooperative members in the country are small shareholders, and older in (pre-retired and retired) age, and non-permanent employees, the incentives for long-term investment for land improvement and renovation of outdated and physically amortized machinery, buildings, orchards, vineyards etc. have been very low.

Finally, many cooperatives fall short in adapting to diversified (service) needs of members, and evolving market demand and growing competition. For all these reasons, the economic performance of production cooperatives has not been good. Accordingly, the efficiency of cooperatives has diminished considerably in relation to other modes of organization (market, contract, partnership etc.). Many landlords have pooled out their land from the cooperatives since

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<sup>9</sup> The latter has been “assisted” by the lack of any (outside) public control on the cooperative’s activity.

property rights on farmland were definitely restored in 2000. Consequently, a significant reduction of cooperative activity has taken place and a big amount of cooperatives ceased to exist in recent years.

There has been a “boom” in creation of different type *agri-firms* after 1990 as their number and importance have augmented enormously (Table 5). They account for a tiny portion of all farms but concentrate a significant part of UAA, material assets, major productions and significant portion of the SGM of cereals, industrial crops, orchards, poultry and swine (Table 6, Figure 3).

Business farms are commonly *large specialized enterprises*. Most of them have been set up as *family* and *partnership* organization during first years of transition by younger generation entrepreneurs - former managers (specialists) of public farms, individuals with high business spirit and know-how etc. Majority of these farms are formally registered as *Sole Traders*. In addition, some state farms and agri-firms have been taken over by former managers and teams and registered as *Shareholdings* (Companies, Associations). Furthermore, different sort of *joint ventures* with non-agrarian and foreign capital increasingly appear as well.

The specific management skills and the “social” status as well as the combination and complementarities of partner’s assets (technological knowledge, business and other ties, available resources) have let a rapid extension of business farms through enormous concentration of (management of, ownership on) resources, and exploration of economies of scale and scope, and modernization of enterprises [Bachev 2000].

The specific mode and the pace of privatization of agrarian resources have facilitated a fast consolidation of the fragmented land ownership and agrarian assets in the large farms. During the long period of institutional and market transformation (unsettled rights on resources, imperfect regulations, huge uncertainty and instability) the personal relations and “quasi” or entirely integrated modes have been extensively used to overcome transaction difficulties.

Furthermore, the large operational size of these enterprises gives enormous possibilities to explore technological opportunities (consolidation of land, economies of scale and scope on machineries, cheap and standardized produce etc.) and achieve a high productivity. Business farms have been constantly extending their share in managed agrarian (and related) resources taking over smaller farms, incorporating new types of activities, and applying new organizational schemes.

Business farms are strongly *market* and *profit-oriented* organizations. Farmer(s) have great incentives to adapt to market demand and institutional restrictions investing in farm specific (human, material, intangible) capital because they are sole owners of residual rights (benefits). The owners are commonly family members or close partners, and the internal transaction costs for coordination, decision making, and motivation are not high (Table 7). Increased number of the coalition (partnership) gives additional opportunity for internal division of labor and profiting from specialization – e.g. full-time engagement in production management, technological development, market and “public” relations, paper works, keeping up with changes in laws and standards etc.

Their large size and reputation make business farms a preferable partner in inputs supply and marketing deals. Besides, these farms have a giant negotiating power and effective (economic, political) mechanisms to dominate markets and enforce contracts. They also possess a great potential to collect market and regulatory information, search best partners, promote products, adjust to new market demand and institutional requirements, use outside experts, prepare business and public projects, meet formal (quantity, quality, collateral) requirements, “arrange” public support, bear risk and costs of failures.

In addition, business farms effectively explore economies of scale and scope on production and management - e.g. “package” arrangement of outside funding for many projects; interlinking inputs supply with know-how supply, crediting, marketing etc.

Furthermore, large farms have strong incentives and potential for innovation – available resources to test, adapt, buy, and introduce new methods, technologies, varieties; possibility to hire leading (national, international) experts and arrange direct supply from consulting companies or research institutes. What is more, they are able to invest a considerable relation-specific capital (information, expertise, reputation, lobbying, bribing) for dealing with funding institutions, agrarian



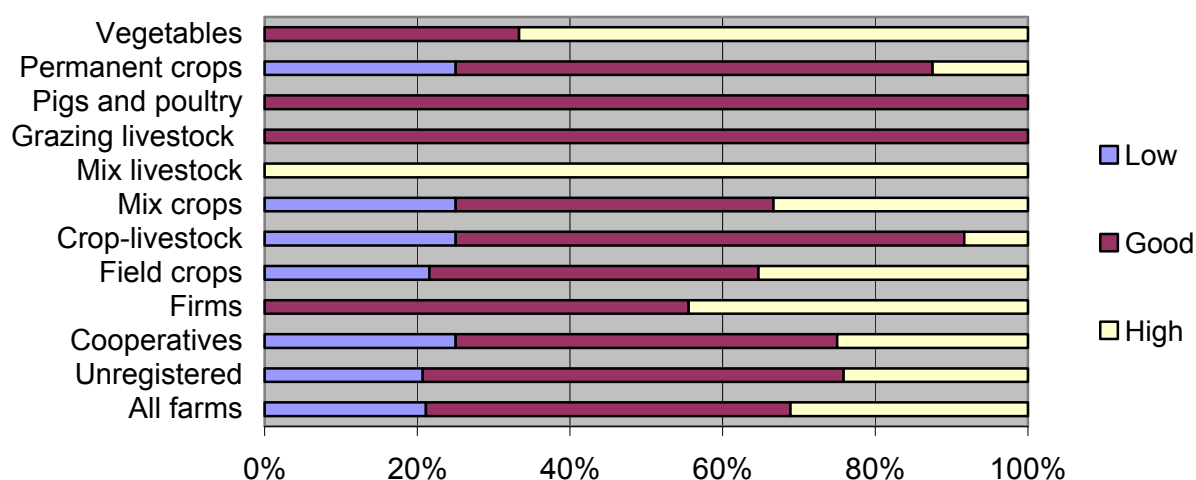
bureaucracy, and market agents at national or even at international scale. The last but not least important, these farms have enormous political power to lobby for Government support in their best interests. All these features give considerable comparative advantages of business type of farming organization.

The *firm mode* is increasingly preferred since it provides considerable opportunities:

- to overcome coalition difficulties - e.g. formation of joint ventures with outside capital, dispute ownerships right through a court system etc;
- to diversify into farm related and independent businesses - trade, agro-tourism, processing etc;
- to develop firm-specific intangible capital (advertisement, reputation, brand names, public confidence) and its exploration (extension into daughter company), trade (sell, licensing), and intergeneration transfer (inheriting);
- to overcome existing institutional restrictions - e.g. for direct foreign investments in farmland, trade with cereals, vine and dairy etc;
- to have explicit rights for taking parts in particular types of transactions - e.g. export licensing, privatization deals, assistance programs etc.

### 3.2. Level of competitiveness of commercial farms

The assessment on the competitiveness of commercial farms in the country has found out that the majority of surveyed farms<sup>10</sup> are with a *good* and *high* competitiveness (Figure 4). Nevertheless, more than a fifth of all farms are with a *low* level of competitiveness.



Source: interviews with farm managers

Figure 4. Share of farms with different levels of competitiveness in Bulgaria

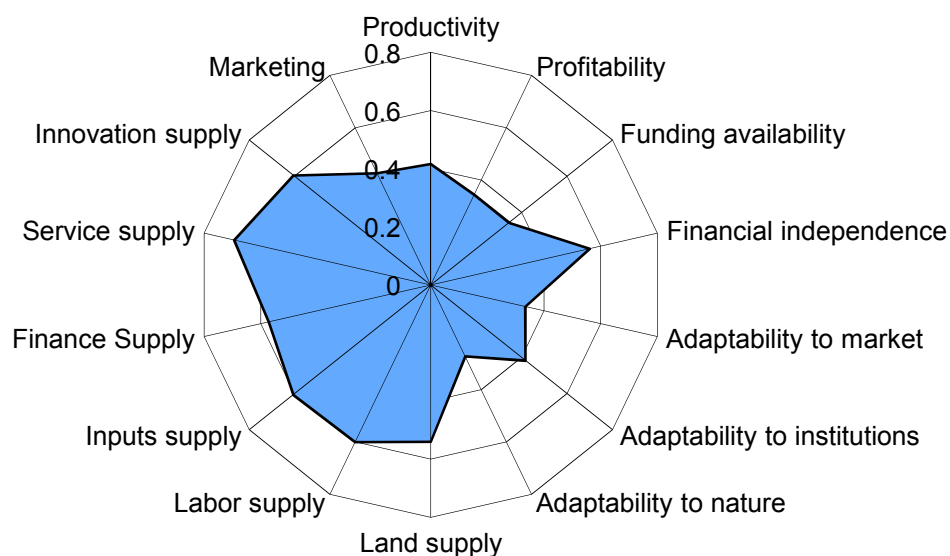
Furthermore, different types and kinds of farms are with *unequal* competitiveness. Diverse *agri-firms* (Sole traders and Companies) are with good competitive positions and the portion of enterprises with high competitiveness is particularly big. On the other hand, a quarter of *cooperatives* are with insufficient competitiveness.

Most of the highly competitive farms are specialized in *mix livestock*<sup>11</sup> and *vegetables*. For all other groups of specialization, the farms with a good competitiveness comprise the greatest share in

<sup>10</sup> Assessment of competitiveness is based on 2010 interviews with farm managers of 58 unregistered holdings, 104 cooperatives, and 18 agri-firms from all regions of the country.

respective groups. In *mix crop-livestock*, *mix crops* and *permanent crops* every fourth farm is non-competitive.

The analysis of different *aspects* of the farms competitiveness shows that the farms' low productivity, profitability and funding availability, and insufficient adaptability to market, institutional and natural environment, and serious problems in financial and innovation supply and in marketing of products and services, all contribute to the greatest extend to decreasing the overall level of farms competitiveness (Figure 5).



Source: interviews with farm managers

Figure 5. Importance of individual elements of farm competitiveness in Bulgaria

The analysis of the *level of efficiency* of diverse type of farms shows that majority of farms have a good productivity, profitability, financial availability and financial independence (Table 8).

However, according to the managers of a considerable number of unregistered holdings, and grazing livestock, pigs and poultry, and mix crop-livestock farms the *productivity* of their farms is low.

<sup>11</sup> The number of surveyed farms in groups with specialization in “Mix livestock”, “Grazing livestock”, and “Pigs and poultry” is very small (only 2).

**Table 8. Share of farms with different level of efficiency in Bulgaria (percent)**

| Type of farms      | Productivity |        |       | Profitability |       |        | Financial availability |        |       | Financial dependency |         |       |
|--------------------|--------------|--------|-------|---------------|-------|--------|------------------------|--------|-------|----------------------|---------|-------|
|                    | low          | good   | high  | low           | good  | high   | low                    | good   | high  | low                  | average | high  |
| Unregistered       | 44,83        | 48,28  | 6,90  | 51,72         | 37,93 | 10,34  | 62,07                  | 20,69  | 17,24 | 51,72                | 34,48   | 13,79 |
| Cooperatives       | 11,54        | 84,62  | 1,92  | 26,92         | 73,08 | 0,00   | 25,00                  | 75,00  | 0,00  | 23,08                | 53,85   | 23,08 |
| Firms              | 11,11        | 55,56  | 33,33 | 33,33         | 55,56 | 11,11  | 33,33                  | 55,56  | 11,11 | 22,22                | 55,56   | 22,22 |
| Field crops        | 15,69        | 74,51  | 9,80  | 29,41         | 64,71 | 5,88   | 29,41                  | 60,78  | 9,804 | 25,49                | 54,9    | 19,61 |
| Mix crop-livestock | 38,46        | 46,15  | 7,69  | 46,15         | 53,85 | 0,00   | 46,15                  | 46,15  | 7,69  | 46,15                | 38,46   | 15,38 |
| Mix crops          | 33,33        | 66,67  | 0,00  | 50,00         | 50,00 | 0,00   | 41,67                  | 58,33  | 0,00  | 33,33                | 50,00   | 16,67 |
| Mix livestock      | 0,00         | 100,00 | 0,00  | 0,00          | 0,00  | 100,00 | 0,00                   | 100,00 | 0,00  | 0,00                 | 100,00  | 0,00  |
| Grazing livestock  | 100,00       | 0,00   | 0,00  | 100,00        | 0,00  | 0,00   | 100,00                 | 0,00   | 0,00  | 100,00               | 0,00    | 0,00  |
| Pigs and poultry   | 100,00       | 0,00   | 0,00  | 100,00        | 0,00  | 0,00   | 100,00                 | 0,00   | 0,00  | 100,00               | 0,00    | 0,00  |
| Permanent crops    | 0,00         | 100,00 | 0,00  | 25,00         | 75,00 | 0,00   | 62,50                  | 37,50  | 0,00  | 37,5                 | 25,00   | 37,50 |
| Vegetables         | 33,33        | 66,67  | 0,00  | 33,33         | 66,67 | 0,00   | 33,33                  | 66,67  | 0,00  | 33,33                | 33,33   | 33,33 |
| All farms          | 22,22        | 70,00  | 6,67  | 35,56         | 60,00 | 4,44   | 37,78                  | 55,56  | 6,67  | 32,22                | 47,78   | 20,00 |

Source: interviews with farm managers

Furthermore, *profitability* of 36% of all farms is evaluated as low, and more than a half of unregistered farms, and a considerable fraction of mix crop-livestock, mix crops, grazing livestock, and pigs and poultry farms are in this group.

A significant portion of farm managers declare that *availability of finance* is insufficient, and unregistered holdings, farms specialized in mix crop-livestock, mix crops, grazing livestock, pigs and poultry, and permanent crops, suffer the most from the lack of funding. Only a fifth of survey farms are heavily *dependent from outside funding* (credit, state support etc.) as share of highly dependent farms specialized in permanent crops and vegetables is the greatest.

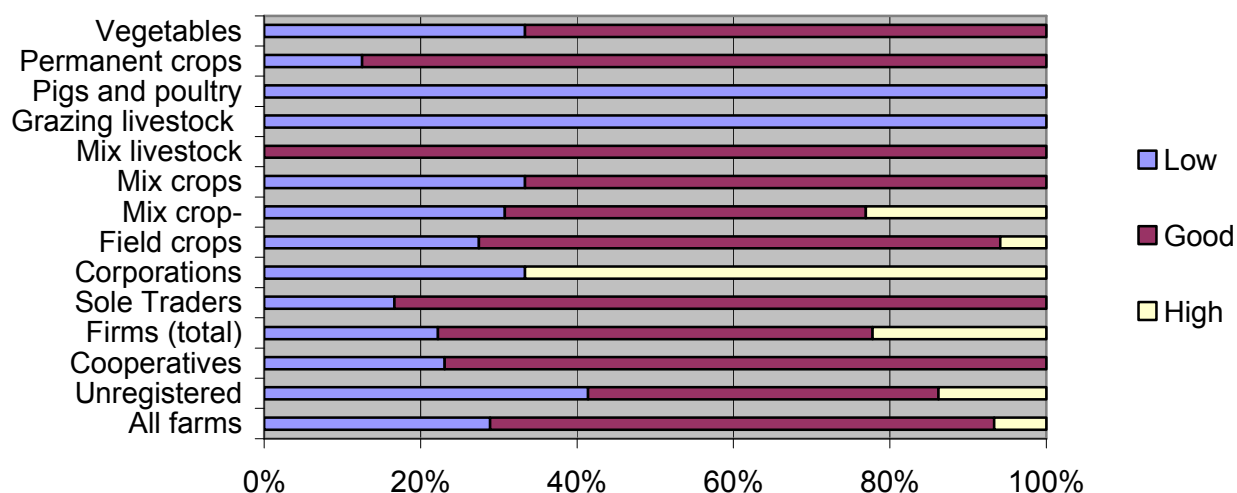
The analysis of the *level of adaptability* of surveyed farms has found out that more than a quarter of them are with a low potential for adaptation to *new state and EU quality, safety, environmental etc. standards*, almost 37% are less adaptable to *market demand, prices and competition*, and every other one is *inadaptable to evolving natural environment* (warning, extreme weather, droughts, floods, etc.) (Table 9).

**Table 9. Share of farms with different level of adaptability in Bulgaria (percent)**

| Type of farm      | Adaptability to: |        |       |              |        |       |        |        |       |
|-------------------|------------------|--------|-------|--------------|--------|-------|--------|--------|-------|
|                   | market           |        |       | institutions |        |       | nature |        |       |
|                   | low              | good   | high  | low          | good   | high  | low    | good   | high  |
| Unregistered      | 51,72            | 48,28  | 0,00  | 31,03        | 68,97  | 0,00  | 37,93  | 55,17  | 6,90  |
| Cooperatives      | 34,62            | 65,38  | 0,00  | 23,08        | 71,15  | 5,77  | 61,54  | 36,54  | 0,00  |
| Firms             | 0,00             | 66,67  | 33,33 | 22,22        | 22,22  | 55,56 | 22,22  | 44,44  | 33,33 |
| Field crops       | 41,18            | 54,90  | 3,92  | 21,57        | 64,71  | 13,73 | 54,90  | 41,18  | 3,92  |
| Crop-livestock    | 38,46            | 61,54  | 0,00  | 38,46        | 61,54  | 0,00  | 38,46  | 61,54  | 0,00  |
| Mix crops         | 25,00            | 75,00  | 0,00  | 16,67        | 83,33  | 0,00  | 58,33  | 25,00  | 16,67 |
| Mix livestock     | 0,00             | 100,00 | 0,00  | 0,00         | 100,00 | 0,00  | 0,00   | 100,00 | 0,00  |
| Grazing livestock | 100,00           | 0,00   | 0,00  | 0,00         | 100,00 | 0,00  | 0,00   | 100,00 | 0,00  |
| Pigs and poultry  | 100,00           | 0,00   | 0,00  | 0,00         | 100,00 | 0,00  | 0,00   | 100,00 | 0,00  |
| Permanent crops   | 25,00            | 75,00  | 0,00  | 37,50        | 62,50  | 0,00  | 50,00  | 37,50  | 0,00  |
| Vegetables        | 0,00             | 66,67  | 33,33 | 33,33        | 33,33  | 33,33 | 0,00   | 66,67  | 33,33 |
| All farms         | 36,67            | 60,00  | 3,33  | 25,56        | 65,56  | 8,89  | 50,00  | 43,33  | 5,56  |

Source: interviews with farm managers

As far as *farm medium-term sustainability* is concerned, it is evaluated by 29% of the farms managers as low. The share of unregistered holdings, grazing livestock, and pigs and poultry farms with a small sustainability is the biggest (Figure 6).



Source: interviews with farm managers

Figure 6. Share of farms with different levels of medium-term sustainability in Bulgaria

On the other hand, less than 7% of all farms “forecast” a high mid-term sustainability. A particular type of firms – the *companies*, is the only exception among surveyed farms, and two-third of these enterprises envisages being highly sustainable in years to come.

Detailed analysis of the diverse *factors* diminishing farms long-term efficiency and sustainability indicates that the *significant problems* in the effective *marketing of products and services*, and in the effective *supply of needed innovation and know-how*, are the most important for the good part of surveyed farms (Table 10). Apparently, the latter farms have no (internal) adaptation potential to overcome these type of problems and will be unsustainable (inefficient) in a longer run<sup>12</sup>.

<sup>12</sup> These farms either have to restructure production, or reorganize farm (new governance), or will disappear in near future.

**Table 10. Share of farms with different level of problems of farm sustainability in Bulgaria (percent)**

| Type of problems   | All farms | Unregistered | Cooperatives | Firms | Field crops | Crop-livestock | Mix crops | Mix livestock | Grazing livestock | Pigs & poultry | Permanent crops | Vegetables |
|--|-----------|--------------|--------------|-------|-------------|----------------|-----------|---------------|-------------------|----------------|-----------------|------------|
| <i>Effective supply of needed land and natural resources</i> |           |              |              |       |             |                |           |               |                   |                |                 |            |
| Insufficient   | 23,33     | 37,93        | 17,31        | 11,11 | 23,53       | 15,38          | 25,00     | 0,00          | 0,00              | 100,00         | 25,00           | 33,33      |
| Normal   | 61,11     | 44,83        | 67,31        | 77,78 | 62,75       | 69,23          | 66,67     | 100,00        | 100,00            | 0,00           | 37,50           | 33,33      |
| Significant  | 14,44     | 17,24        | 13,46        | 11,11 | 13,73       | 15,38          | 8,33      | 0,00          | 0,00              | 0,00           | 25,00           | 33,33      |
| <i>Effective supply of needed labor</i>                      |           |              |              |       |             |                |           |               |                   |                |                 |            |
| Insufficient   | 34,44     | 51,72        | 26,92        | 22,22 | 33,33       | 30,77          | 33,33     | 0,00          | 0,00              | 100,00         | 50,00           | 33,33      |
| Normal   | 51,11     | 31,03        | 61,54        | 55,56 | 50,98       | 53,85          | 58,33     | 100,00        | 0,00              | 0,00           | 50,00           | 33,33      |
| Significant  | 14,44     | 17,24        | 11,54        | 22,22 | 15,69       | 15,38          | 8,33      | 0,00          | 100,00            | 0,00           | 0,00            | 33,33      |
| <i>Effective supply of needed inputs</i>                     |           |              |              |       |             |                |           |               |                   |                |                 |            |
| Insufficient   | 32,22     | 48,28        | 25,00        | 22,22 | 29,41       | 46,15          | 41,67     | 0,00          | 100,00            | 100,00         | 12,50           | 0,00       |
| Normal   | 56,67     | 31,03        | 69,23        | 66,67 | 66,67       | 30,77          | 50,00     | 100,00        | 0,00              | 0,00           | 62,50           | 33,33      |
| Significant  | 11,11     | 20,69        | 5,77         | 11,11 | 3,92        | 23,08          | 8,33      | 0,00          | 0,00              | 0,00           | 25,00           | 66,67      |
| <i>Effective supply of needed finance</i>                    |           |              |              |       |             |                |           |               |                   |                |                 |            |
| Insufficient   | 30,00     | 55,17        | 13,46        | 44,44 | 31,37       | 38,46          | 25,00     | 0,00          | 0,00              | 100,00         | 0,00            | 66,67      |
| Normal   | 54,44     | 20,69        | 73,08        | 55,56 | 56,86       | 30,77          | 66,67     | 100,00        | 0,00              | 0,00           | 75,00           | 33,33      |
| Significant  | 14,44     | 24,14        | 11,54        | 0,00  | 9,80        | 30,77          | 8,33      | 0,00          | 100,00            | 0,00           | 25,00           | 0,00       |
| <i>Effective supply of needed services</i>                   |           |              |              |       |             |                |           |               |                   |                |                 |            |
| Insufficient   | 48,89     | 51,72        | 44,23        | 66,67 | 49,02       | 46,15          | 66,67     | 0,00          | 0,00              | 100,00         | 37,50           | 33,33      |
| Normal   | 41,11     | 27,59        | 51,92        | 22,22 | 43,14       | 30,77          | 25,00     | 100,00        | 100,00            | 0,00           | 62,50           | 33,33      |
| Significant  | 10,00     | 20,69        | 3,85         | 11,11 | 7,84        | 23,08          | 8,33      | 0,00          | 0,00              | 0,00           | 0,00            | 33,33      |
| <i>Effective supply of needed innovation and know-how</i>    |           |              |              |       |             |                |           |               |                   |                |                 |            |
| Insufficient   | 42,22     | 62,07        | 30,77        | 44,44 | 43,14       | 23,08          | 41,67     | 0,00          | 100,00            | 100,00         | 50,00           | 66,67      |
| Normal   | 36,67     | 20,69        | 44,23        | 44,44 | 37,25       | 46,15          | 41,67     | 100,00        | 0,00              | 0,00           | 25,00           | 0,00       |
| Significant  | 20,00     | 17,24        | 23,08        | 11,11 | 19,61       | 30,77          | 16,67     | 0,00          | 0,00              | 0,00           | 12,50           | 33,33      |
| <i>Effective marketing of products and services</i>          |           |              |              |       |             |                |           |               |                   |                |                 |            |
| Insufficient   | 17,78     | 34,48        | 5,77         | 33,33 | 17,65       | 15,38          | 16,67     | 0,00          | 100,00            | 100,00         | 0,00            | 33,33      |
| Normal   | 50,00     | 37,93        | 59,62        | 33,33 | 56,86       | 46,15          | 50,00     | 100,00        | 0,00              | 0,00           | 12,50           | 66,67      |
| Significant  | 30,00     | 27,59        | 30,77        | 33,33 | 23,53       | 38,46          | 33,33     | 0,00          | 0,00              | 0,00           | 75,00           | 0,00       |

Source: interviews with farm managers

The serious (unsolvable) problems associated with the *marketing* are critical for a considerable section of agri-firms, and farms specialized in mix crop-livestock, and permanent crops. The severe problems in the effective *supply of needed innovation and know-how* are most important for the sustainability of cooperatives, mix crop-livestock, and vegetable farms. Furthermore, great difficulties ineffective *supply of needed land and natural resources* face a quarter of farm specialized in vegetables and permanent crops. Harsh problems in effective *supply of needed labor* are critical only for grazing livestock holdings.

Big difficulties in effective *supply of needed inputs* experience a good fraction of unregistered holdings, and farms specialized in vegetables, permanent crops, and mix crop-livestock production. Significant problems in effective *supply of needed finance* are reported by a main part of unregistered holdings, and farms specialized in grazing livestock, mix crop-livestock, and permanent crops. Finally, substantial difficulties in effective *supply of needed services* are common for a big section of unregistered holdings, and farms specialized in permanent crops and mix crop-livestock operations.

### 3.3.Competitiveness of different type of farms

The majority of surveyed **unregistered holdings** are with a *good* level of competitiveness, and around 24% of them are *highly* competitive (Figure 7). At the same time, more than a fifth of all unregistered farms are not competitive.

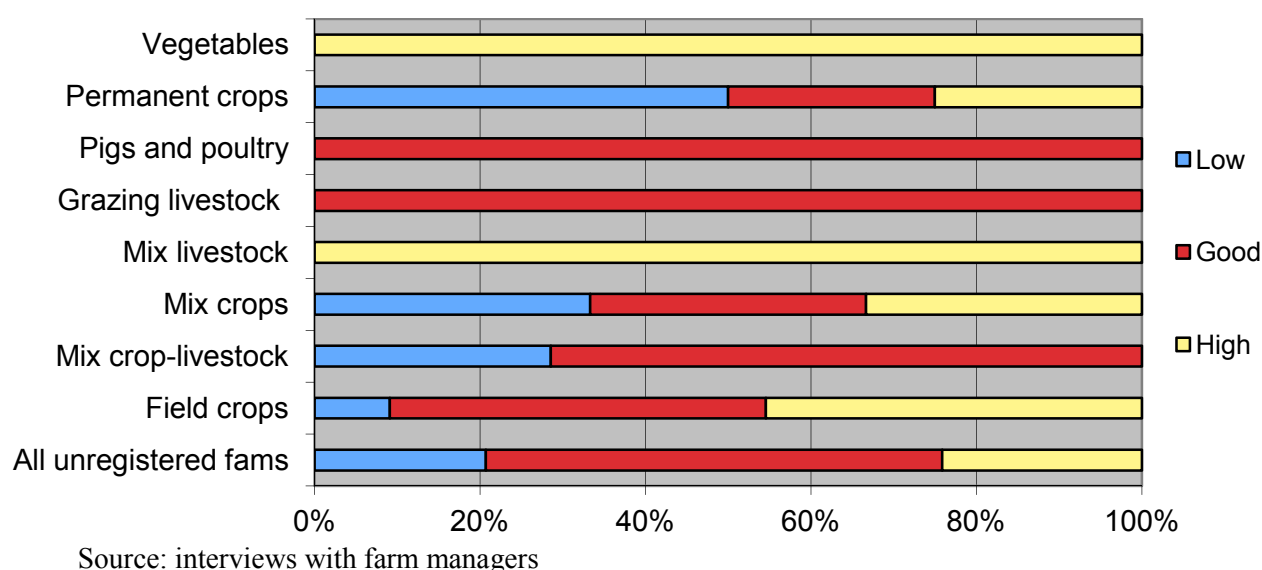
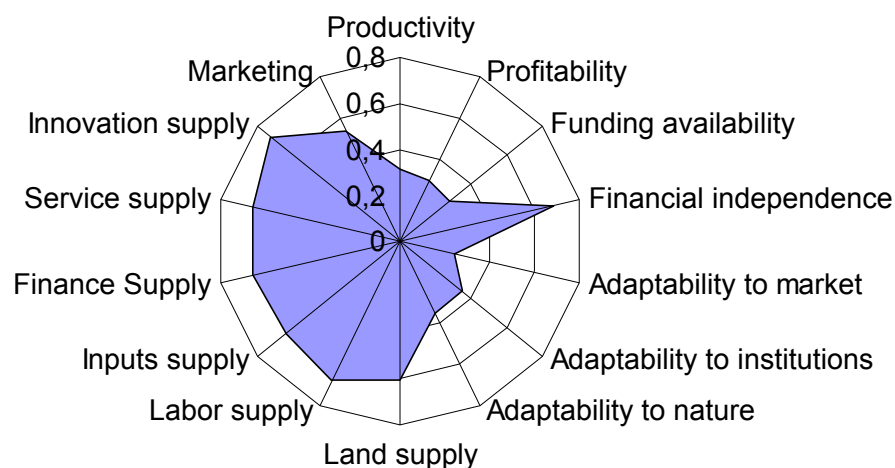


Figure 7. Share of unregistered farms with different levels of competitiveness in Bulgaria

Unregistered holdings with a different specialization are with *unequal* competitiveness. Most highly competitive farms are in *vegetables*, *field crops*, and *mix livestock* productions. On the other hand, a half of the holdings in *permanent crops*, a third of all farms in *mix crops*, and 29% of *mix crop-livestock* operators are with a low level of competitiveness.

The analysis of different *components* of the competitiveness of unregistered holdings indicates that the low productivity, profitability, and funding availability, along with the insufficient adaptability to changing market, institutional and nature environment, and the severe problems associated with marketing of products, are mostly responsible for diminishing the competitiveness of these farms (Figure 8).

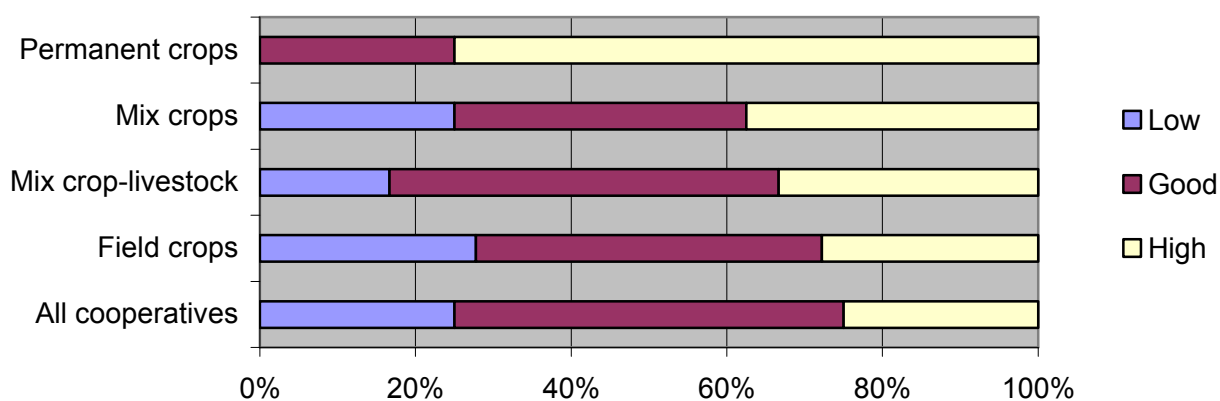


Source: interviews with farm managers

Figure 8. Importance of individual elements of competitiveness of unregistered farms in Bulgaria

On the other hand, the higher efficiency in supply of factors of production and the lower dependency from outside funding, enhance the overall competitiveness of unregistered farms.

A half of surveyed *cooperatives* are with a *good* level of competitiveness, and a quarter of them are *highly* competitive (Figure 9). At the same time, one out of four cooperatives is not competitive.



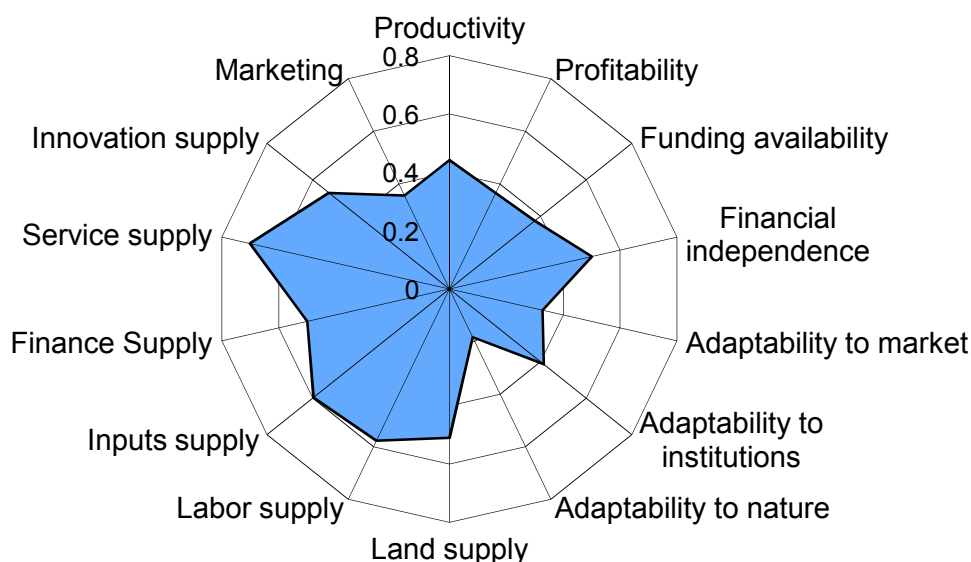
Source: interviews with farm managers

Figure 9. Share of cooperatives with different levels of competitiveness in Bulgaria

The cooperatives with a diverse specialization are with *different* level of competitiveness. Most of the highly competitive cooperatives are in *permanent crops* and *mix crops*. At the same time, a significant number of cooperatives in *field crops* and *mix crops* are with a low level of competitiveness.



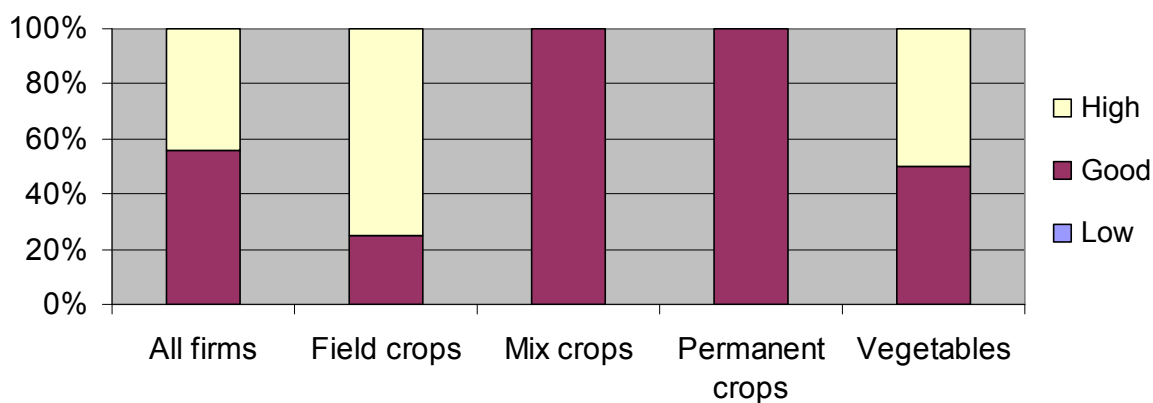
The analysis of different *elements* of the competitiveness of cooperatives shows that the low productivity, profitability, financial availability and independency, together with the insufficient adaptability to market, institutional and nature environment, and the difficulties associated with finance, land and innovation supply and marketing mainly affect the reduction of competitiveness of cooperatives (Figure 10).



Source: interviews with farm managers

Figure 10. Importance of individual elements of competitiveness of cooperatives in Bulgaria

All surveyed *agri-firms* are with a *good* or a *high* competitiveness. What is more, a significant number of these farms (44%) are highly competitive (Figure 11).

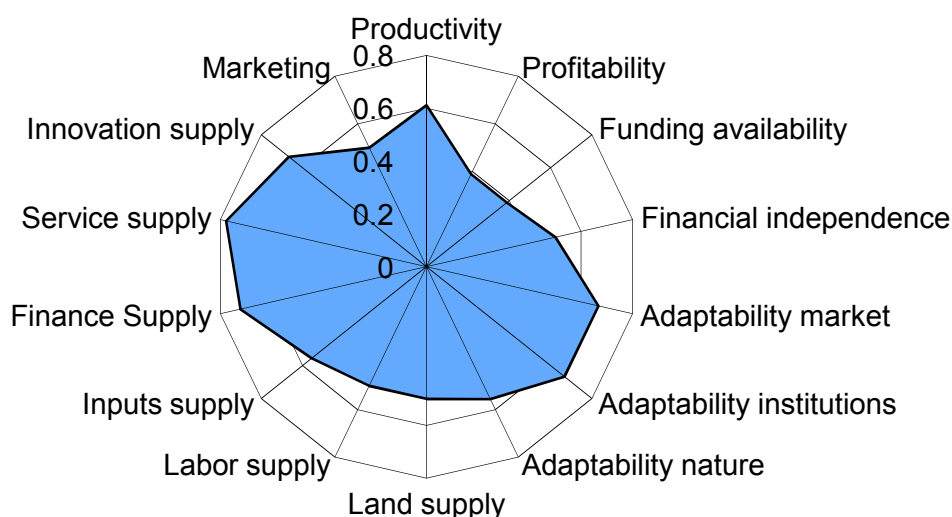


Source: interviews with farm managers

Figure 11. Share of agri-firms with different levels of competitiveness in Bulgaria

Nevertheless, while three-quarter of the firms in *field crops* are with high level of competitiveness, all firms in *mix crops* and *permanent crops* are with a good competitiveness, and *vegetables* producers are equally divided in good and high competitive groups.

The analysis of individual *factors* the competitiveness of agri-firms exposed that the low productivity, profitability, funding availability and independency, and the serious problems in labor and land supply and marketing, greatly contribute to decreasing firms competitiveness (Figure 12). On the other hand, the high adaptability of firms to evolving market and institutional environment, and their considerable efficiency in finance, innovation and service supply raise the overall competitiveness of these farming enterprises.



Source: interviews with farm managers

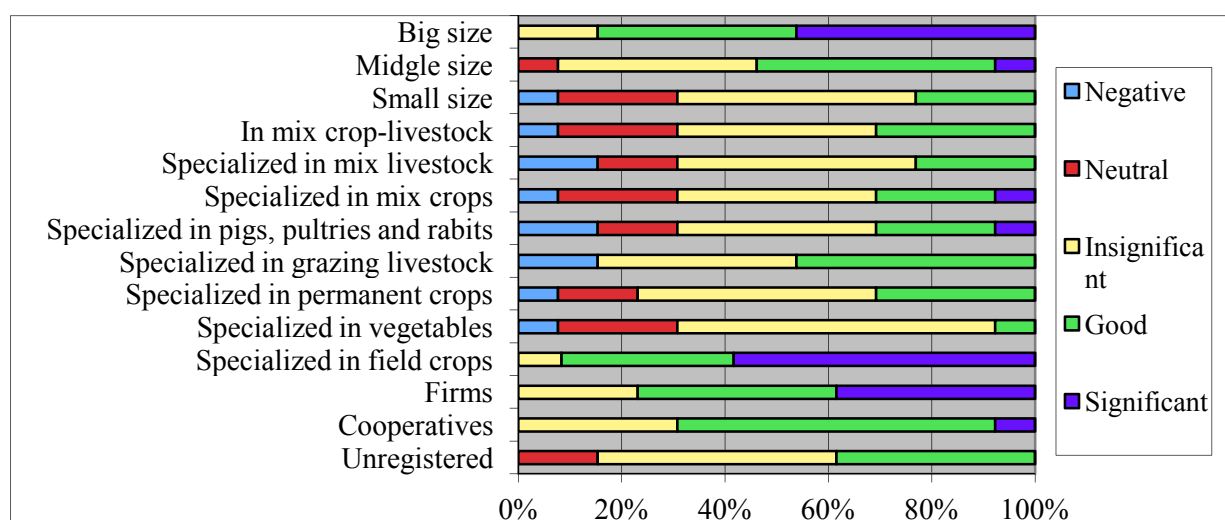
Figure 12. Importance of individual elements of competitiveness of agri-firms in Bulgaria

## 4. IMPACTS OF EU CAP ON INCOME, EFFICIENCY, SUSTAINABILITY AND COMPETITIVENESS OF BULGARIAN FARMS

### 4.1. CAP effects on farms economic results and income

According to the *experts*<sup>13</sup> the overall impact from implementation of the various CAP mechanisms (common market, market intervention, new standards, direct payments, support from NPARD, export subsidies) on *incomes* of different type of farms is multidirectional.

The majority of experts estimate that CAP effect on income of cooperatives, firms, middle and large size farms, and farms specialized in field crops is *good* or *significant* (Figure 13). What is more, most experts evaluate CAP impact on middle size farms and cooperatives rather as *good*, while that on firms and big farms is rather *significant*. Namely larger farming organizations (such as agri-firms and cooperatives) highly specialized in certain field crops (wheat, sunflower, corn etc.) have benefited the most from the major CAP instruments for income and farm modernization support (direct area-based payments, NPARD measures) due to the large farmlands under management, high capability to apply for public support etc. Having in mind the relatively low-income level in many farms (e.g. producers cooperatives) during pre-accession period, it could be concluded that CAP implementation has been associated with a “sizeable” improvement in farms income in the country.



Source: expertise with leading national experts

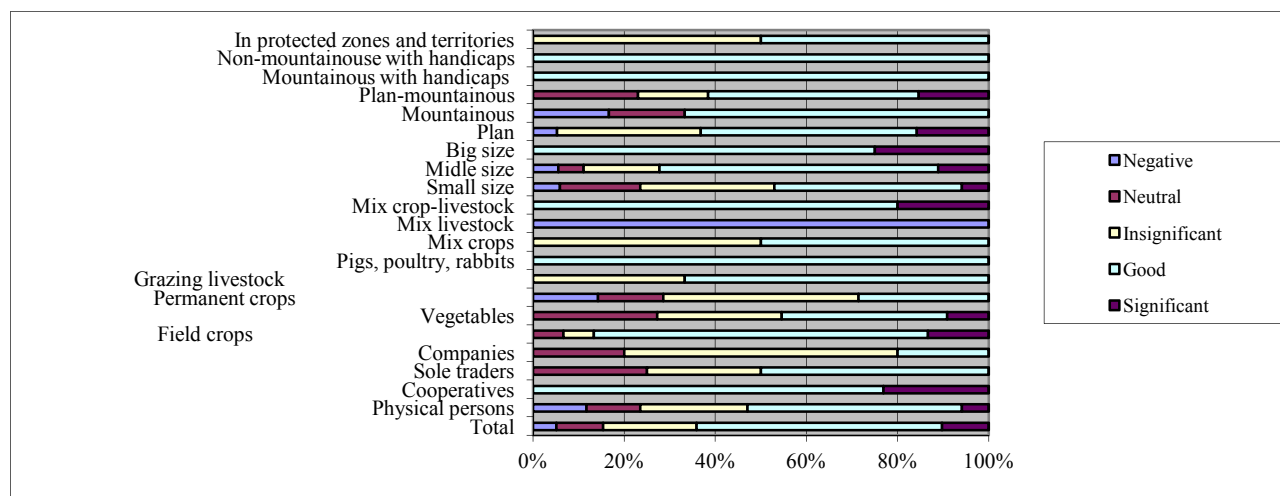
Figure 13. Impact of EU CAP on income of Bulgarian farms

On the other hand, the biggest part of the experts assesses as *insignificant* the impact of CAP on unregistered farms, small holdings, and farms specialized in vegetables, permanent crops, and mix livestock. Furthermore, a good part of the experts estimate as *neutral* or even *negative* the CAP effect on small farms, and holdings specialized in vegetables, permanent crops, grazing livestock, pigs, poultry and rabbits, mix crops, and mix crop-livestock farms.

The majority of surveyed *farm managers*<sup>14</sup> assess as *good* or *significant* the overall impact from implementation of diverse CAP instruments on the *economic results* of their own farms

<sup>13</sup> Expertise was carried out in the end of 2011 with the 13 leading experts on farm structure and policies in Bulgaria.

(Figure 14). All questioned cooperatives, farms with big size, holdings specialised in crop-livestock, pig, poultry and rabbits, and those located in regions with natural handicaps, report a high positive impact from the implementation of the common policy of the Union.



Source: interviews with farm managers

Figure 14. Impact of EU CAP on farms economic results in Bulgaria

The effect of CAP implementation on economic results is the most *significant* for the surveyed farms with big sizes, cooperatives, specialised in mix crop-livestock and field crops, and situated in the plan and plan-mountainous regions of the country.

The weakest positive impact of CAP is on economic results of firms and unregistered farms, holdings specialised in mix livestock and crops, permanent crops and vegetables, and farms with small size, and with lands in protected areas and territories. What is more, all farms with mix livestock, a considerable section of farms in mountainous regions, with permanent crops and Physical Persons, and a portion of farms with small size and in plan regions, estimate as *negative* the impact of the new policy on their economic results.

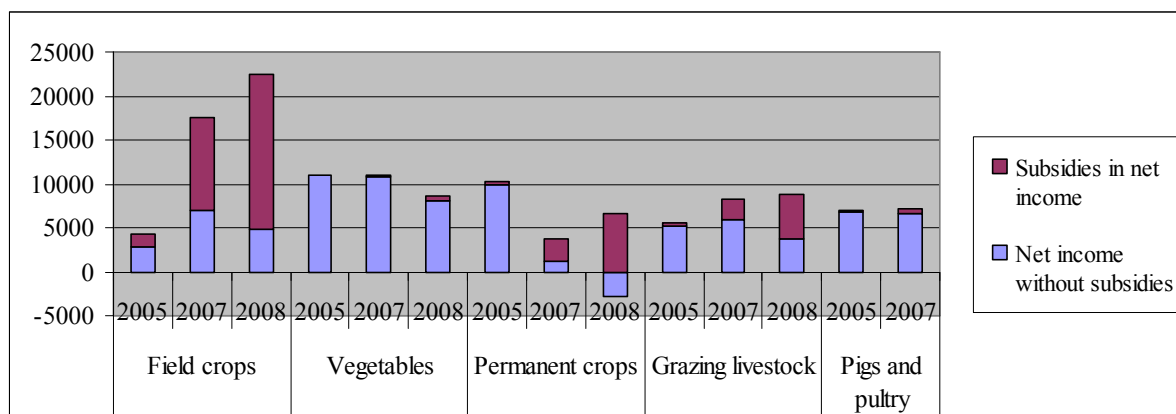
Implementation of different mechanisms of CAP affects also positively the *incomes* of a great part of surveyed farms. The effect on income is strongest for large farms, cooperatives, farms specialised in mix crop-livestock, pigs, poultry, and rabbits, and field crops, and holdings located in plan regions and in areas with natural handicaps. Moreover, 40% of crop-livestock farms, every fourth of big farms, and a good part of cooperatives and firms mainly from mountainous regions, assess as *significant* the CAP impact on their income.

Nevertheless, for a considerable fraction of questioned farms CAP implementation is not connected with a positive impact on incomes. The effect on income growth is weakest for farms specialised in mix livestock and crops, permanent crops, grazing livestock and vegetables, firms and unregistered holdings, small farms and farms in mountainous and plan-mountainous regions. For a good part of farms in permanent crops and a portion of unregistered holdings, and farms with middle size in plan regions of the country, the effects of the new policy on income is even *negative*.

<sup>14</sup> A survey with 84 managers of “representative” commercial farms of all type of juridical status, sizes, specialisations, and geographical locations was conducted in the spring of 2012. The structure of surveyed farms approximately correspond to the current structure of commercial farms in the country.

Available data also proves that the bulk of public subsidies go to a few number of large farms (agri-firms and cooperatives) specialized in field crops. At the same time, many effective small-scale farms receive no or only a tiny fraction of the public support. For instance, despite it increased number only 24% of all farms received area based direct payments, and merely 6% of cattle holdings, 4% of sheep and pig holdings, and 3% of poultry farms[MAF]. Moreover, less than 7% of the beneficiaries get the lion share (more than 80%) of direct payments. Similarly, due to restrictive criteria, unattainable formal requirements, high costs for participation, and widespread mismanagement (and corruption) the new public support under NPARD is not effectively utilized and benefits a small portion of the farms [Bachev 2010b]. All these further foster the income disparity in different type of farms.

Nevertheless, CAP subsidies are becoming an important part of the net income of farms specialised in filed crops, permanent crops and grazing livestock (Figure 15). Furthermore, subsidies accounts for the major and increasing part of the net income of large farms – 89% (42% in 2007) and 83% (75% in 2007) for farms with 8-40 ESU and above 40 ESU accordingly [MAF].

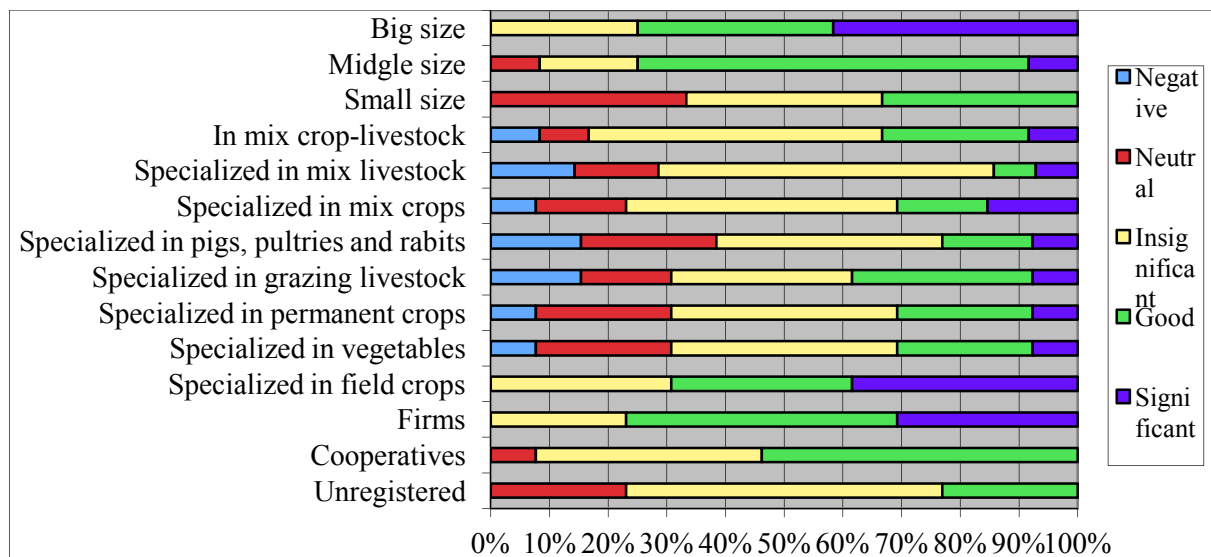


Source: MAF, Agro-statistics

Figure 15. Evolution of income and public support of different type of Bulgarian farms

#### 4.2. CAP effects on farms efficiency

The overall impact of EU CAP on the *production efficiency* of farms of different types is also unequal. According to the majority of *experts* the effects of CAP on production efficiency of middle sized holdings and cooperatives is *good* (Figure 16). The impact on firms, big size farms, and farms specialized in field crops, is estimated as *good* or *significant*. In the past years many farms have been improving their efficiency through progressive change in organization, technology, production structure, and introduction of innovation, taking advantage from the new opportunities of public support, market demands etc.

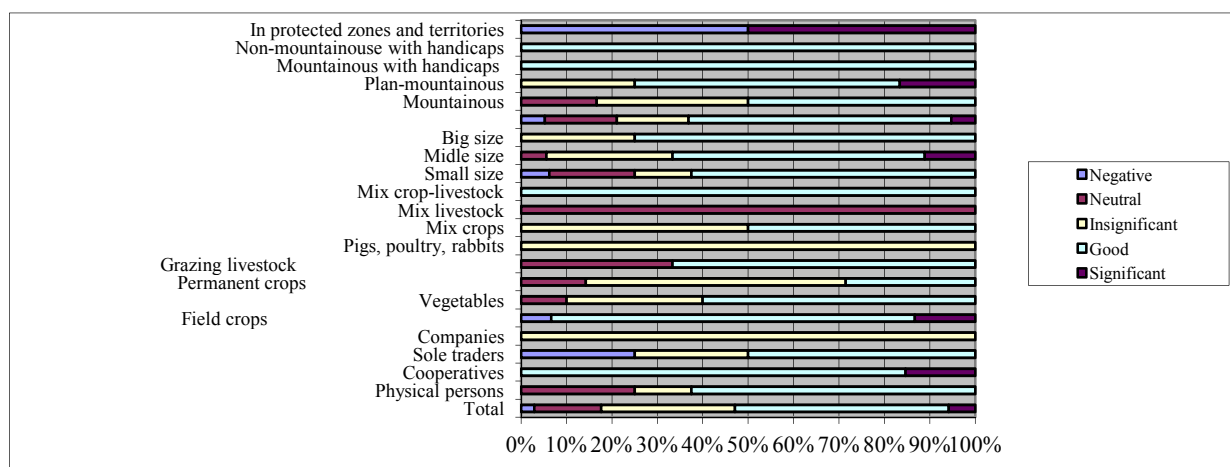


Source: expertise with leading national experts

Figure 16. Impact of EU CAP on production efficiency of Bulgarian farms

On the other hand, most experts assess as *insignificant* the effect of CAP on production efficiency of unregistered farms, and holdings with mix livestock, mix crops, and mix crop-livestock. For the rest type of holdings, the impact of CAP is evaluated as *insignificant*, *neutral* or even *negative* in relation to production efficiency of farms.

According to the half of the *managers* of surveyed farms the CAP implementation is affected *good* or *significantly* production efficiency (Figure 17). The positive impact of the new policy is strongest on the production efficiency of cooperatives, farms specialised in mix crop-livestock and field crops, farms with big sizes, in plan-mountainouse regions, regions with natural handicaps, and in protected areas and territories. Also the main part of surveyed Physical Persosns, holdings specialised in vegetables and grazing livestock, farms with small and middle sizes, and those in predominately plan regions, evaluate as *good* or *significant* the effect of new policy on their production efficiency.



Source: interviews with farm managers

Figure 17. Impact of EU CAP on farms production efficiency in Bulgaria

Nontheles, at the same time CAP implementation is having *no positive* impact on production efficiency of all or a major portion of firms, holdings in permanent crops, bigs, pultry and rabbits, and mix livestock, and farms in predominately mountenouse regions and in protected zones and teritories. Furthermore, implementation of the new policy is associated with *negative* results in relation to the production efficienvy of every other farms with plots in protected zones and teritories, a quater of Sole Traders, and a portion of farms in files crops, small size, and in plan regions of the country.

Dynamics of the main indicators of economic efficiency also demonstrate that there is a positive impact of CAP implementation on profitability, land and labour productivity, and income per farm and utilized land of farms specialised in filed corps (Table 11). For farms specialised in vegetables, permanent crops, and livestock, the evolution of production efficiency indicators is rather negative.

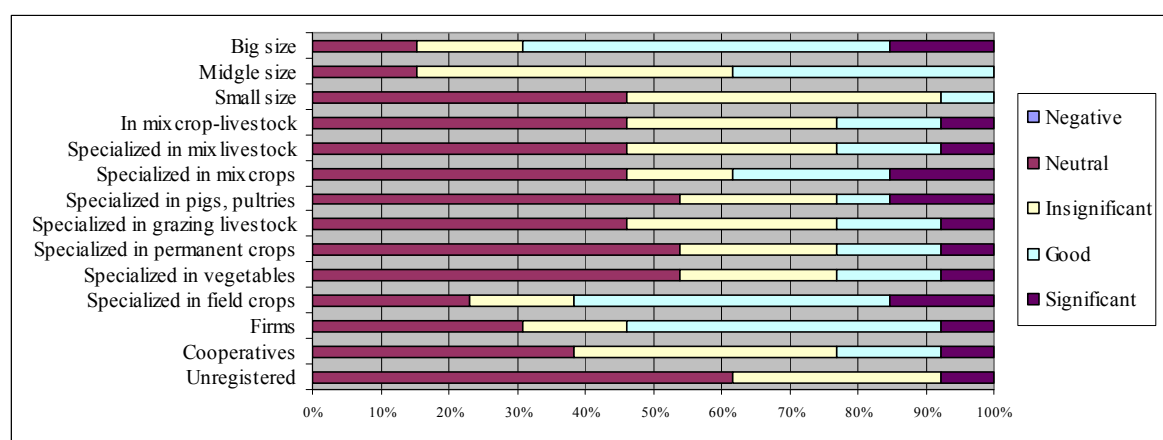
**Table 11. Evolution of economic efficiency of Bulgarian farms**

| Indicators         | Field crops |       |       | Vegetables |       |       | Permanent crops |       |       | Grazing livestock |      |       | Pigs and poultry |       |      |
|--------------------|-------------|-------|-------|------------|-------|-------|-----------------|-------|-------|-------------------|------|-------|------------------|-------|------|
|                    | 2005        | 2007  | 2008  | 2005       | 2007  | 2008  | 2005            | 2007  | 2008  | 2005              | 2007 | 2008  | 2005             | 2007  | 2008 |
| Profitability      | 10,9        | 33,6  | 30,6  | 12,2       | 8,7   | 5,64  | 12,2            | 8,7   | 5,64  | 49,6              | 42,3 | 38,07 | 28,1             | 12,3  | 6,91 |
| Land productivity  | 37          | 55    | 78    | 210        | 188   | 253   | 210             | 188   | 253   | 123               | 94   | 109   | 557              | 646   | 466  |
| Labor productivity | 9780        | 17077 | 21704 | 14170      | 11362 | 14994 | 14170           | 11362 | 14994 | 4406              | 6300 | 7042  | 7689             | 10336 | 7527 |
| Net Income/farm    | 4273        | 17467 | 22432 | 10295      | 3780  | 3733  | 10295           | 3780  | 3733  | 5484              | 8284 | 8759  | 6920             | 7251  | 3606 |
| Net Income/UAA     | 8           | 26    | 34    | 35         | 25    | 22    | 35              | 25    | 22    | 86                | 61   | 66    | 334              | 239   | 116  |

Source: Ministry of Agriculture and Food



The overall impact of CAP on **governance efficiency** of farms is also quite diverse. The biggest number of *experts* estimate that the overall impact of CAP implementation on the governance efficiency of large farms and the farms specialized in field crops is *good* (Figure 18). For the middle size farms that impact is defined as *insignificant* or *good*.



Source: expertise with leading national experts

Figure 18. Impact of EU CAP on governance efficiency of Bulgarian farms

Most experts assess the CAP effect on governance efficiency of unregistered holdings, and farms specialized in vegetables, permanent crops, and pigs, poultry and rabbits as *neutral*, and for the rest type of farms as *neutral* or *insignificant*.

Our survey also proves that impact of CAP on governance efficiency of specific types of farms is quite different. More than 47% of the *managers* assess as *good* or *significant* the effect on their governance efficiency, including all of the holdings in regions with natural handicaps, more than 83% of cooperatives, above 69% of farms in field crops, two-third of farms with grazing livestock, and 60 and more percent of holdings with middle sizes, farms specialised in vegetables, and those located in mountainous regions.

The effect in relation to improvement of managerial efficiency is particularly strong for the farms in protected zones and territories where every another one evaluate as *significant* the impact of the new policy. The CAP implementation affects particularly strongly the governance efficiency of a good share of cooperatives, and farms in field crops, middle sizes, and in mountainous regions of the country.

On the other hand, CAP implementation contributes *insignificantly* or *neutrally* to governing efficiency of all or a major part of farms specialised in pigs, poultry and rabbits, Sole Traders, Physical Persons, Companies, large farms, and holdings specialised in permanent crops and mix production, and those in plain and plain-mountainous regions, and with areas in protected zones and territories. What is more, all farms with mix livestock, one fifth of holdings in predominantly mountainous regions and companies, and a good portion of farms in permanent crops, in plain-mountainous regions, with smaller sizes, and Physical Persons, report a *negative* effect of CAP on their governance efficiency.

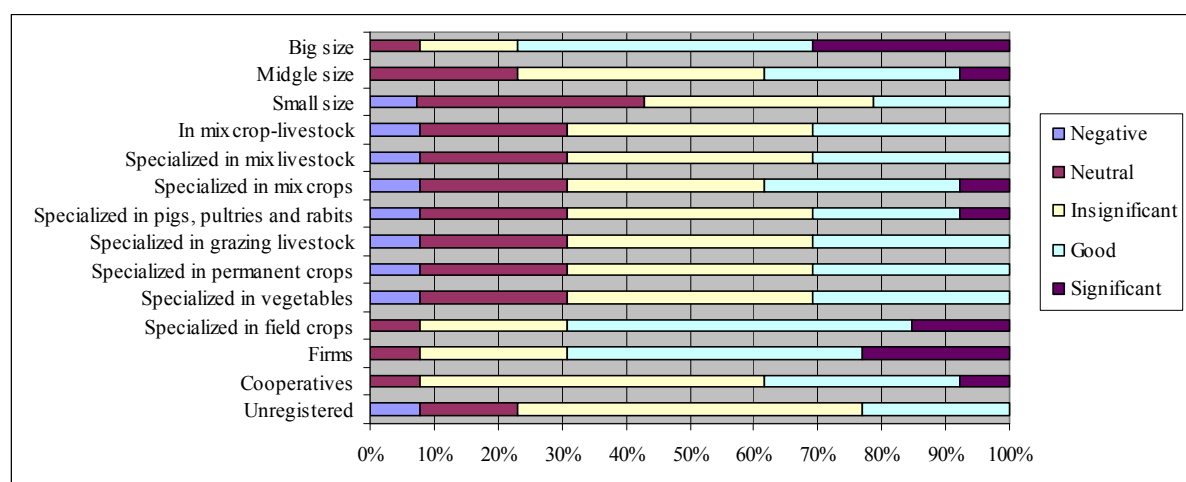
Changes in the market and institutional environment associated with the CAP introduction (enhanced competition; high quality, safety, environmental etc. standards; available public support) affect the internal comparative and absolute potential of the principle type of farming organisations to economise on transaction costs and benefit from the adaptation to the evolving socio-economic environment. Moreover, a number of CAP measures aim at enhancing (certain aspects of) managerial efficiency of (certain type of) farms – e.g. "Semi-subsistence farming",

"Setting up producer groups ", "Provision of farm advisory and extension services", public eco-contracts etc.

Nevertheless, the progress of implementation of specific measures has been slow while the number of affected farms insignificant [Bachev 2012b]. Similarly to the past, mostly bigger farms participate in the public support programs because they have a superior managerial and entrepreneurial experience, available resources, possibilities for adaptation to the new requirements for quality and other standards, potential for preparing and winning projects, etc. Therefore, CAP support measures benefit exclusively the largest structures and the richest regions of the country, and do not contribute to decreasing economic and eco-discrepancy between farms, sectors, and regions.

### 4.3. CAP effect on sustainability of farms

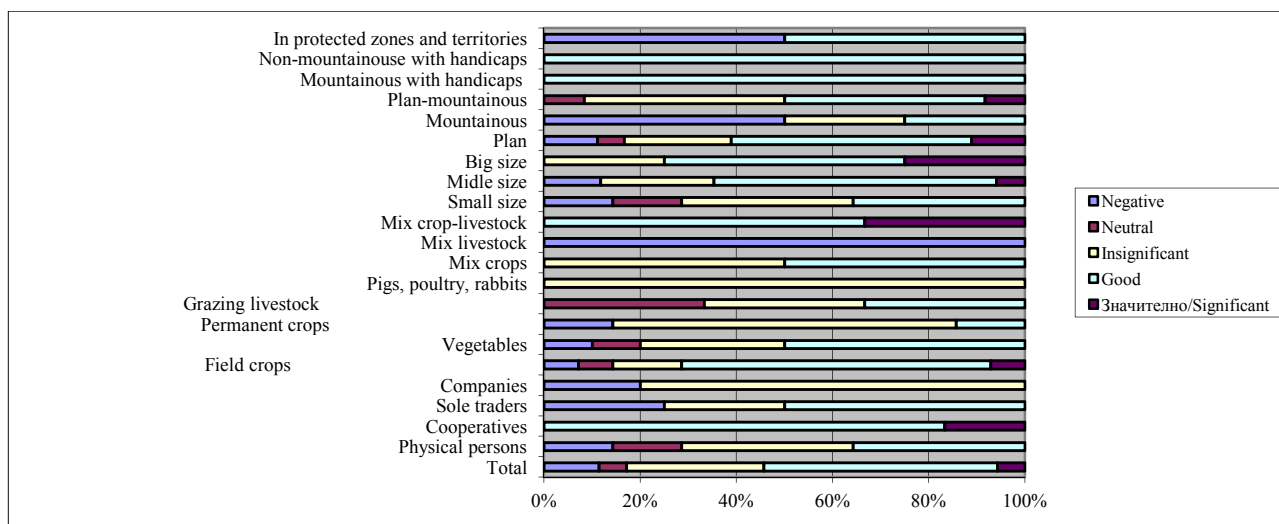
According to the most *experts* the impact of CAP implementation on economic, social and environmental sustainability of large farms, firms, and farms specialized in field crops is *good* or *significant* (Figure 19). The overall effect of CAP on sustainability of other type of farms is estimated as *insignificant* or *neutral*.



Source: expertise with leading national experts

Figure 19. Impact of EU CAP on economic, social and environmental sustainability of Bulgarian farms

According to the *managers* CAP implementation is having *good* or *significant* effect on *economic sustainability* of more than a half of surveyed farms (Figure 20). To the greatest extent the new policy leads to enhancing economic sustainability of cooperatives, big and midde size farms, holdings specialised in mix crop-livestock and filed crops, and farms located in regions with natural handicaps and plans. The impact of CAP is particularly beneficial for increasing the economic sustainability of farms with crop-livestock specialisation, of large farms and cooperatives, where the effects is evalusated as *significant* by each third, each forth and almsot 17% of them accordingly. For a part of farms in plan-mountenouse regions, in field crops, with middle sizes, the effect on improvmmnet of economic sustainability is also sensible.



Source: interviews with farm managers

Figure 20. Impact of EU CAP on farms economic sustainability in Bulgaria

On the other hand, for all or a major part of farms in pig, poultry and rabbits, companies, Physical Persons, specialized win permanent crops and grazing livestock, holdings with small sizes and in mountainous regions, the impact of CAP implementation in *insignificant* or *neutral* in relations to economic sustainability.

What is more, all farms specialized in mix livestock, every another one of holdings in mountainous regions and in protected zones and territories, a quarter of Sole Traders, a fifth of companies, and a good fraction of Physical Persons, small and middle size holdings, farms specialized in permanent crops, vegetables and filed crops, and those located in mainly plan regions, assess as diminishing (*negative*) the effects of the new policy on their economic sustainability.

More than a half of surveyed farms also indicate a *good* or *significant* impact of CAP on *social sustainability* offarms, including each tenth one significant effect for improving social sustainability. Implementation of CAP instruments has a favorable impact on social sustainability of all cooperatives (including for almsot 17% of them *significant*), all holdings in regions with natural handicaps, every four out of five farms with mix crop-livestock specialisation (including for one fifth of them in a *significant* extent), two-third of farms in predominately mounteneouse regions (including for almsot 17% of them *significant*), more than 64% of farms in filed crops (including for more than 7% *significant*), and above 61% of holdings with middle sizes (including for almsot 17% of them *significant*). CAP implementation enhance the social sustainability of the half of farms in mix crops (all in *significant* extent), of farms situated in plan regions of the country (including for more than 11% *significantly*), and of the farms with large sizes and in the protected zones and territories.

The CAP contribution to the social sustainability is smallest for mix livestock farms, holdings with pigs, pulytry, and rabbits, firms of all type, and farms specialized in permanent crops and grazing livestock. Moreover, CAP imlemenation is associated with diminishning (*negative* effect) of social sustainability of a portion of surveyed farms –accordingly for more than 14% of specialized in permanent crops, and almsot 6% of Physical Persons and farms in plan regions of the country.

As far as impact of CAP on *environmental sustanability* of farms is concerned for more than a half of surveyed holdings it is positive, mostly evalusated as *good* by managers. The favorable effect of CAP on eco-sustanabilitu is felt by all farms with areas with natural

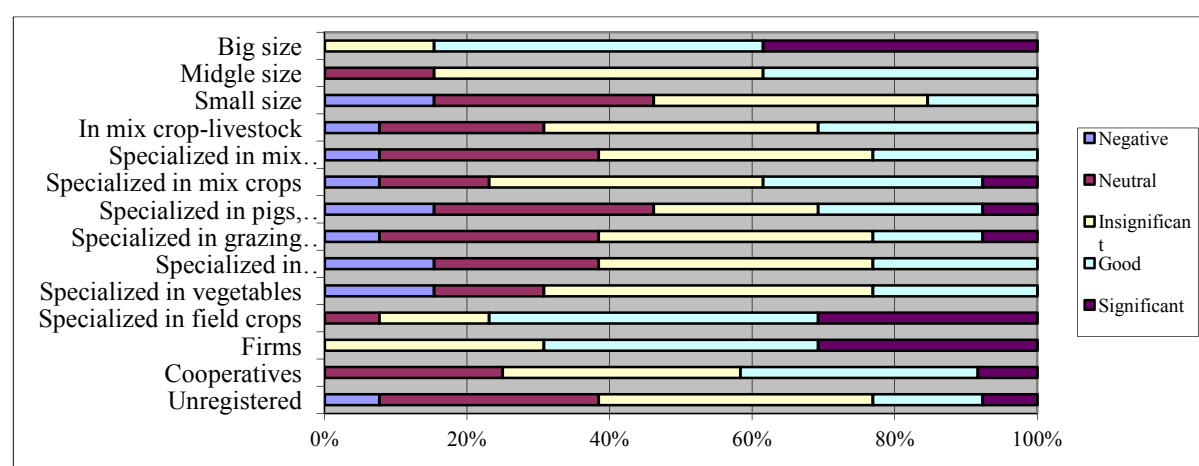
handicaps, forth-fifth of holdings in vegetavles and mountenouse regions, three-quarters of farms in crop-livestick production, more than two-third of farms with grazing livestock, more than 69% of farms in plan-muntenouse regions, 60% of Physical Persons, more than 58% of cooperative, and every other farm with small and moddle sizes, in field crops, mix crops, and pigs, pultry and rabbits.

None of surveyed farms do not report a negative impact of CAP on environmental aspects of their activity. Nevertheless, for all holdings with mix livestock and with areas in protected zones and territories, and the majority of farms with permanent crops, plan regions, and big sizes, the effect from implementation of CAP instruments on environmental sustainability is *unsignificant* and/or *neutral*.

CAP implementation tends to improve the eco-performance of commercial farms. There is “eco-conditionality” for participating in public programs. In addition, direct payments are inducing farming on previously abandoned lands, and improve eco-situation. Furthermore, there is huge budget allocated for special eco-measures and the number of farms joining agri-environmental programs gradually increases. CAP measures affect positively the environmental sustainability particularly of large business farms and cooperatives. These enterprises are under constant administrative control (and punishment) for obeying new eco-standards, strongly interested in transforming activities according to new eco-norms (making eco-investments, changing production structures), and realizing economies of scale and scope from participation in special agro-environmental measures. On the other hand, many small and (semi) subsistence holding can hardly meet new eco-standards and stay in the gray and informal sector. The later is particularly true for numerous livestock holdings most of which do not still comply with the new EU standards for quality, safety, animal welfare and eco-performance.

#### 4.4. CAP effect of farms competitiveness

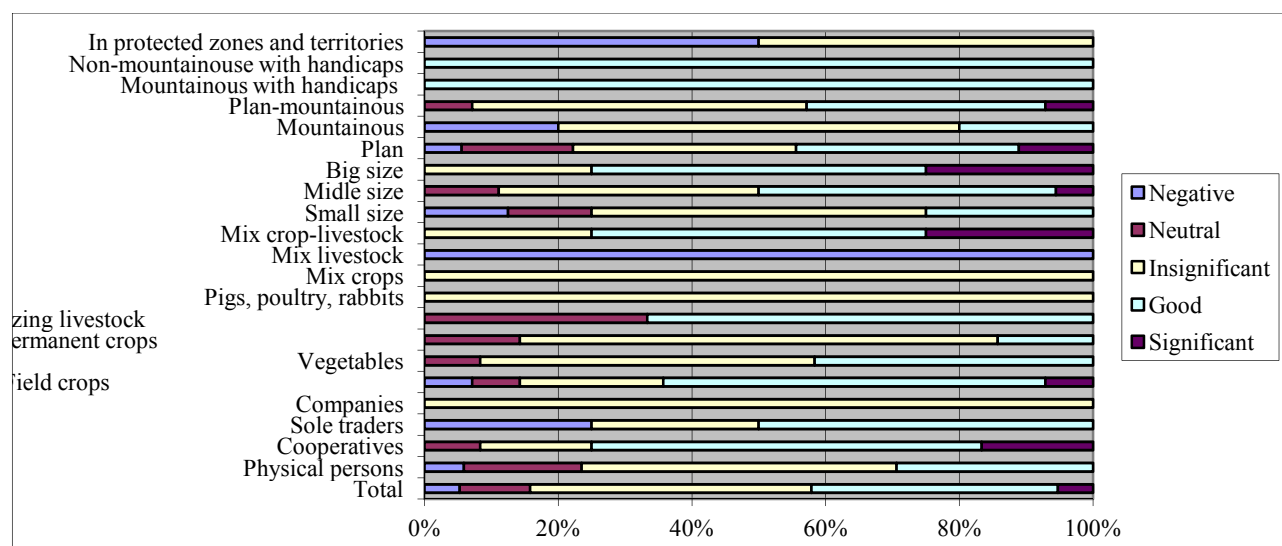
Most *experts* assess the overall impact of CAP on the competitiveness of firms, big size farms, and holdings specialized in field crops as *good* and *significant* (Figure 21). The effect on the competitiveness of middle size farms, and holdings specialized in vegetables is determined as *insignificant* or *good*.



Source: expertise with leading national experts

Figure 21. Impact of EU CAP on competitiveness of Bulgarian farms

According to the *managers* of 42% of surveyed farms the CAP implementation is having a *good* or *significant* impact on their own competitiveness (Figure 22). To the greatest extent the new policy improves the competitiveness of holdings in regions with natural handicaps, big and middle size farms, cooperatives and Sole Traders, and farms specialized in mix crop-livestock operations, field crops and grazing livestock. What is more, a quarter of large farms and those with crop-livestock specialization, nearly 17% of the cooperatives, more than 11% of the holdings in predominately plan regions, above 7% of the holdings in field crops and in plan-mountainous regions, and almost 6% of the holdings with middle sizes, estimate as *significant* the effect from CAP implementation for increasing their competitiveness.



Source: interviews with farm managers

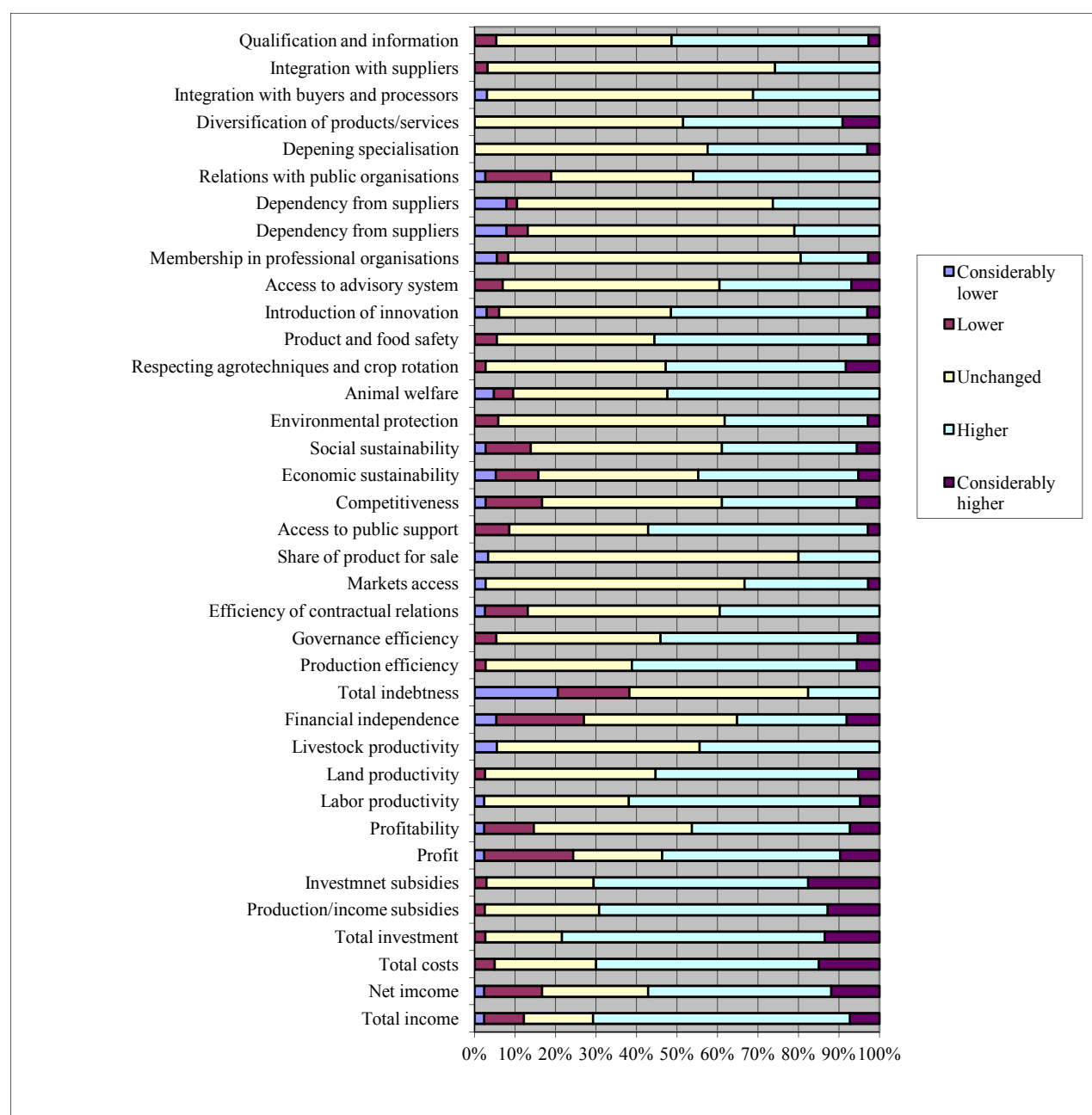
Figure 22. Impact of EU CAP on farms competitiveness in Bulgaria

On the other hand, all or a main part of the companies, Physical Persons, farms with mix crops, pigs, poultry and rabbits, permanent crops and vegetables, and holdings located in mountainous and plan-mountainous regions, describe as *insignificant* or *neutral* the impact of the new policy on the level of their competitiveness. For all farms with mix livestock, for every other one in protected zones and territories, for one quarter of Sole Traders, for a fifth in predominately mountainous regions, for more than 12% of small holders, for 7% of farms in field crops, and nearly for 6% of Physical Persons and farms in plan regions, the CAP implementation decreases their competitiveness (reported *negative* effect).

#### 4.5. Dynamics of main farms indicator comparing to the period before EU CAP implementation (end of 2006)

The greatest share of surveyed farms indicates an increased level of a part of the main indicators in the present time comparing to the levels in the period before EU CAP implementation (Figure 23). For instance, *higher* or *considerable higher* is the level of the total income, costs, investments, profit, labor productivity, efficiency of the production and management in the majority of surveyed farms. Also the biggest portion of holdings has an improved access to public support, and augmented amount of subsidies for production, income

and investment support. At the same time, the share of farms with *lower* total indebtedness comparing to the pre-accession period is 38%, while with a *higher* one below 18%.



Source: interviews with farm managers

Figure 23. Level of farms major indicators comparing to level before EU CAP implementation in Bulgaria

According to the more than a half of farms they have an improved qualification and information, agro-techniques and crop rotation, and livestock conditions, as well as increased product and food safety, and innovation activity comparing to the period before CAP implementation. All that is a direct or indirect result of the favorable impact on different CAP mechanisms on the key aspects of the activities of majority of surveyed farms.

However, a good fraction of farms report *lack of change* in share of sold output, market access, diversification of products and services, deepening of specialization, and in environmental preservation. Also a big part of farms have no changes in their dependency from suppliers and buyers, increased integration with suppliers and buyers, and improved involvement in professional organizations and access to the agricultural advisory system.

Furthermore, a big portion of holdings do not report changes in the profitability, land and livestock productivity, overall indebtedness and financial independency, efficiency of production, management and contractual relations, competitiveness, economic and social sustainability, agro-techniques and crop rotation, livestock conditions, product and food safety, introduction of innovation, qualification and information. Besides, more than a third of farms have no improvement in the relations with state organizations and in the access to public support in comparison to the pre-accession period.

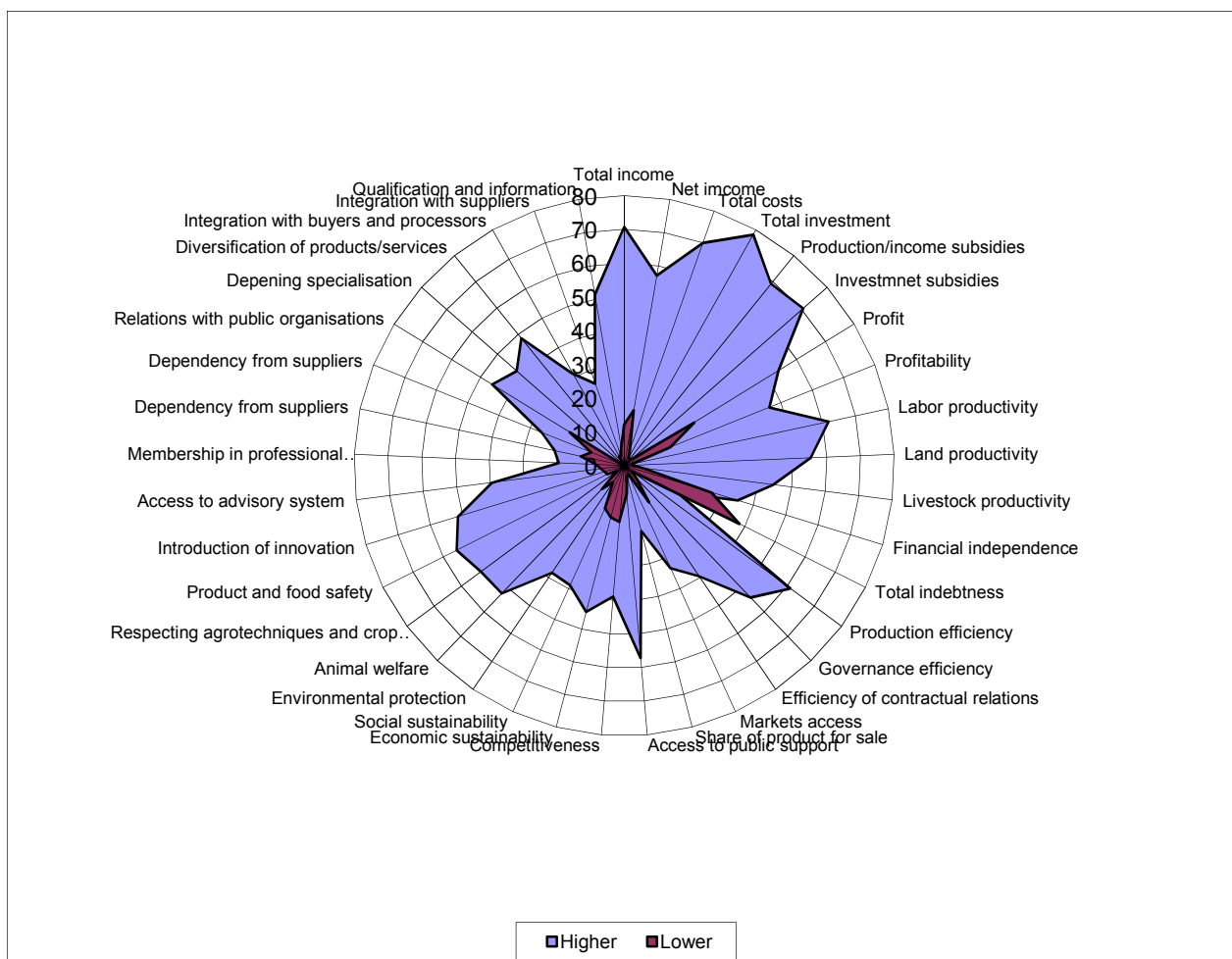
Therefore, implementation of diverse instruments of CAP does not lead to a progressive change in the main indicators of a good part of farms. The latter is either due to the lack of positive effect from CAP on a portion of holdings (for example, lack of effective public support) or due to neutralized effect of CAP on other negative factors which could have deteriorated even further the state of farms (in conditions of lack of counterbalancing the existing negative trends CAP instruments).

For a considerable share of farms the current level of the main indicators is *lower* or *significantly lower* comparing to the level before CAP introduction. For instance, 27% of surveyed holdings indicate deteriorated financial independence, more than 24% are with diminished profit, almost 17% are with reduced net income and competitiveness, around 16% are with inferior economic sustainability, almost 15% are with lower profitability, and 14% are with deteriorated social sustainability. Similarly, nearly 19% of farms are with worsened relations with the state organizations, above 13% of them have decreased efficiency of contractual relations, every tenth is with inferior livestock conditions, almost 9% of holdings are with decreased access to public support, and more than 8% are with reduced membership in professional organizations.

All these show that CAP implementation is associated with deterioration of main indicators of a considerable portion of farms. This is either because of the negative effects of CAP on a party of farms, or due to the lack of effective mechanisms for assisting the farms adaptation and for compensating the influence of other negative factors (e.g. competition with heavily subsidized imported products at the national and international markets, high interest rates of bank credits, big market price fluctuations etc.).

Figure 24 illustrates the extent and the directions in which the main farms indicators have been changed during the period of CAP implementation in the country. Implementation of diverse CAP mechanisms is associated with significant progressive changes in some of the aspects of activity of a relatively big share of farms. For other aspects of farms activity the CAP implementation does not lead to sensible effective change in the majority of holdings. What is more, in certain directions the effect of CAP is negative for a good portion of farms.





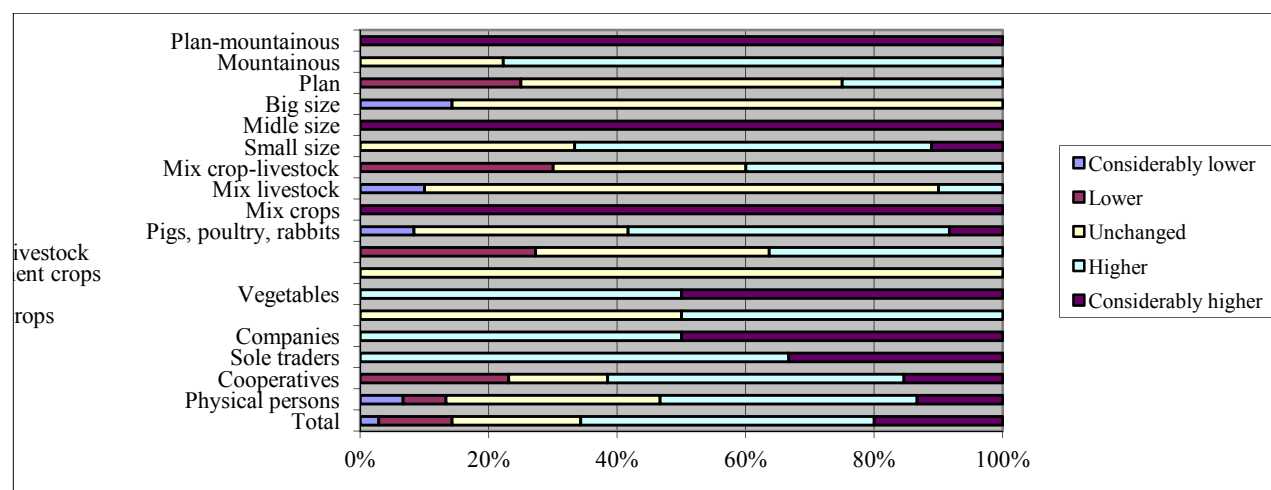
Source: interviews with farm managers

Figure 24. Dynamics of main farm indicators comparing to the pre-accession period in Bulgaria (percent of farms)

All these necessitate improvement of the CAP implementation through perfection of management public programs, change in design and/or beneficiaries of some CAP instruments, or require rethinking and reforming individual mechanisms or the policy as a whole.

According to the managers the CAP implementation affects quite unlikely the competitiveness of different type of farms. As a result of improved market and institutional environment and public support, and increased investment and efficiency of farms, the competitiveness of two-third of surveyed farms *increases*, including for each fifth one is a *significant scale* (Figure 25).





Source: interviews with farm managers

Figure 25. Current level of farms competitiveness comparing to the pre-accession period in Bulgaria

During the period of CAP implementation the competitiveness *increases* of all type of firms, holding specialized in mix livestock and vegetables, and farms located in plan regions and in protected zones and territories. The majority of cooperatives, farms with big sizes, mix crops, and in non-mountainous areas with natural handicaps also record a growth in competitiveness.

Nevertheless, CAP implementation the country is *not* associated with a change in the competitiveness of farms specialized in grazing livestock, main part of small holdings, and farms in plan-mountainous regions and in mountainous areas with natural handicaps, and a good portion of Physical Persons, cooperatives, farms in field crops, pigs, poultry and rabbits, mix crops, middle and large size holdings. Moreover, the current level of the competitiveness of 30% of middle sized farms, more than 27% of holdings specialized in pigs, poultry and rabbits, a quarter of farms in the mountainous areas with natural handicaps, more than 23% of cooperatives, above 14% of farms in plan-mountainous regions, more than 13% of Physical Persons, every tenth of smallholdings, and more than 8% of mix crop farms, is *lower* or *significantly lower* comparing to the period before CAP introduction.

Therefore, CAP implementation does not contribute to improvement of competitiveness of a great portion of farms in the country.

## CONCLUSION

We have demonstrated that the New Institutional and Transaction Costs Economics is a powerful methodology which let us better understand the “logic” and adequately assess the farm efficiency and competitiveness in the specific market, institutional and natural environment of Bulgarian agriculture.

The analysis of the post-communist transition and EU integration of Bulgarian agriculture has found out that fundamental property rights and institutional modernization has been associated with the evolution of a specific farming structure consisting of numerous small-scale and subsistent holdings and a few large cooperatives and agro-firms. Furthermore, agrarian agents have developed and use a great variety of effective contractual arrangements to govern their relations, resources and activities – formal, informal, simple, complex, interlinked, market, private, collective, bilateral, trilateral, multilateral, hybrid etc.

Various type of farms have quite different efficiency, adaptability, and sustainability in the specific Bulgarian conditions of undeveloped markets, badly defined and/or enforced formal rights and rules, inefficient forms of public intervention, specific “Bulgarian” way of EU “common” policies implementation, dominant informal “rules of the game” etc. What is more, diverse farming organizations possess unlike competitive advantages in rapidly changing market, institutional and natural environment. While most market farms are with a good competitiveness, a great part of agri-firms are highly competitive, and a considerable fraction of unregistered holdings and cooperatives uncompetitive.

EU CAP implementation in the country affects in dissimilar ways the income, efficiency, sustainability and competitiveness of farms of different types. It has got an overall positive impact on cooperatives, firms of different type, big farms, holdings specialized in field crops, and farms located in plan regions and areas with natural handicaps. Despite that the CAP implementation affects favorably the income, efficiency, sustainability and competitiveness of a portion of other type of holdings, the overall impact of CAP for the majority of agricultural holdings in the country is either insignificant or neutral. What is more, for a good fraction of small holdings, unregistered farms, farms specialized in vegetables, permanent crops, livestock, and mix crop-livestock, and holdings in mountainous regions the CAP implementation has been associated with negative effects.

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